STIC Search Report
Biotech-Chem Library

STIC Database Tracking Number: 134331

TO: Leigh Maier **Location: 5a29/ 5c18** **Thursday, October 07, 2004** **Art Unit: 1623** **Phone: 272-0656** **Serial Number: 10 / 679110**	**From: Jan Delaval** **Location: Biotech-Chem Library** **Rem 1A51** **Phone: 272-2504** **jan.delaval@uspto.gov**

Search Notes

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=> fil hcaplus
FILE 'HCAPLUS' ENTERED AT 08:06:18 ON 07 OCT 2004
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FILE COVERS 1907 - 7 Oct 2004  VOL 141 ISS 15
FILE LAST UPDATED: 6 Oct 2004  (20041006/ED)

 This file contains CAS Registry Numbers for easy and accurate
 substance identification.


=> d his

     (FILE 'HOME' ENTERED AT 07:10:31 ON 07 OCT 2004)
               SET COST OFF

     FILE 'HCAPLUS' ENTERED AT 07:10:41 ON 07 OCT 2004
L1             2 S (US20040077592 OR US6683064 OR US6303585)/PN OR (WO98-US13997
                 E SPIRO R/AU
L2            45 S E4,E8,E9
                 E THOMPSON A/AU
L3           302 S E3,E42,E159,E160
                 E LIN L/AU
                 E LIU L/AU
L4           614 S E3,E28
                 E LIU LIN/AU
L5           389 S E3,E22,E23
                 E LIU LINSHU/AU
L6            14 S E3

     FILE 'REGISTRY' ENTERED AT 07:19:37 ON 07 OCT 2004
L7             8 S (ALGINIC ACID OR HYALURONIC ACID OR DEXTRAN OR DEXTRAN SULFAT
L8             5 S 9005-38-3 OR 9005-35-0 OR 9067-32-7 OR 9011-18-1 OR 9041-08-1
                 E ALGINIC ACID, /CN
L9             1 S E274
                 E HYALURONIC ACID, /CN
L10            1 S E346
                 E HEPARIN, /CN
L11            1 S E47
L12            1 S E311
L13            3 S L7 AND NC>=2
L14           49 S 7664-93-9/CRN AND 75634-40-1/CRN
L15            3 S L14 AND (K OR NA OR LI)/ELS AND 3/NC
L16            8 S L14 AND 2/NC
L17          149 S 7664-93-9/CRN AND 9004-54-0/CRN
L18            2 S L17 AND 2/NC
L19           87 S L17 AND 3/NC
L20           16 S L19 NOT (MXS/CI OR COMPD OR WITH)
L21            4 S L20 AND (NA OR K OR LI)/ELS
L22          149 S 7664-93-9/CRN AND 9007-27-6/CRN
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L23          11 S L22 AND 2/NC
L24          38 S L22 AND 3/NC NOT (MXS/CI OR COMPD OR WITH)
L25          10 S L24 AND (NA OR K OR LI)/ELS
L26          13 S L14,L17,L22 AND (MG OR MN OR BA OR CA)/ELS AND 3/NC
L27          63 S L7-L12,L15,L16,L21,L23,L25,L26

     FILE 'HCAPLUS' ENTERED AT 07:32:53 ON 07 OCT 2004
L28       72867 S L27
L29        3385 S L28 AND (?CROSSLINK? OR ?CROSS LINK?)
                E CROSSLINK/CT
                E E4+ALL
L30           5 S L28 AND E1
                E E2+ALL
L31         374 S L28 AND E2
L32         364 S L28 AND (E9+OLD OR E10+OLD OR E11+OLD OR E12+OLD)
                E E9+ALL
                E E9+ALL
                E E10+ALL
L33        3385 S L29-L32
L34           5 S L33 AND (IMINE OR OXIME) AND ALDEHYDE
L35           8 S L33 AND (IMINE OR OXIME) AND ?ALDEHYDE?
L36           8 S L34,L35
                E DRUG DELIVERY/CT
L37        6774 S E23
L38        3644 S E52
L39       10820 S E76-E83
                E E3+ALL
                E E6+ALL
L40       54558 S E3-E5
L41         883 S E58
L42        1192 S E86
L43         661 S E97
L44        2730 S E110-E117
L45          73 S E202
L46         282 S E277-E280
L47        8591 S (DRUG DELIVERY SYSTEM? OR PHARMACEUTICAL DOSAGE FORM?)/CT (L)
L48          52 S L33 AND L47
L49          72 S L33 AND L37-L46 AND CARRIER
L50          82 S L48,L49
L51          17 S L50 AND (GROWTH FACTOR? OR CYTOKINE? OR HORMON? OR DNA?)/CT
L52           8 S L50 AND CELL#/CW
L53          17 S L50 AND (GROWTH(L)FACTOR? OR CYTOKINE? OR HORMON? OR DNA?)/CW
L54          22 S L51-L53
L55        1336 S L2-L6
L56           8 S L55 AND L33
L57           6 S L56 NOT L1
                SEL DN AN 3
L58           1 S L57 AND E1-E3
L59          28 S L1,L36,L54,L58
L60           5 S L59 AND ?COVALENT?
L61          28 S L59 AND ?LINK?
L62           3 S L59 AND BOND?
L63           8 S L59 AND BIND?
L64          10 S L61 AND L60,L62,L63
L65           8 S L64 NOT L1
                SEL DN AN 1 3
L66           6 S L65 NOT E4-E9
L67           5 S L66 NOT 15/SC
L68           2 S L64 NOT L65
L69           7 S L67,L68
                E POLYSACCHARIDE/CW
L70         329 S E3,E4 (L) CARRIER
L71         340 S E3,E4 (L) CROSSLINK?
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L72          46 S E3,E4 (L) CROSS LINK?
                E OLIGOSACCHARIDE/CW
L73          89 S E4 (L) CARRIER
L74          37 S E4 (L) CROSSLINK?
L75           8 S E4 (L) CROSS LINK?
                E SACCHARIDE/CW
L76           1 S E4 (L) CARRIER
L77           1 S E4 (L) CROSSLINK?
L78           2 S E4 (L) CROSS LINK?
L79         385 S L70,L73,L76
L80         422 S L71,L72,L74,L75,L77,L78
L81           9 S L79 AND L80
L82           7 S L81 NOT L69
L83         789 S L79,L80 NOT L81
L84         443 S L83 AND (?CROSSLINK? OR ?CROSS LINK?)
L85          71 S L84 AND (BOND? OR BIND?)
L86          39 S L84 AND ?COVALENT?
L87          15 S L85 AND L86
                SEL DN AN 3 4 6 7 8 9 12 13 14 15
L88           5 S L87 NOT E1-E30
L89          12 S L69,L88
L90          12 S L89 AND L1-L6,L28-L89
L91          12 S L90 AND (?LINK? OR ?CROSS LINK? OR ?ALDEHYD? OR IMINE OR OXIM
L92           8 S L91 AND ?POLYM?
L93           9 S L91 AND (?ALGIN? OR ?HYALURON? OR DEXTRAN? OR CHONDROITIN? OR
L94          12 S L90-L93

     FILE 'HCAPLUS' ENTERED AT 08:06:18 ON 07 OCT 2004

=> d all hitstr tot l94

L94  ANSWER 1 OF 12  HCAPLUS  COPYRIGHT 2004 ACS on STN
AN   2003:173389  HCAPLUS
DN   138:217450
ED   Entered STN:  07 Mar 2003
TI   Discovery of pectin transester synthase and pectin transesterase
     activities in tomato pectin methylesterase and regulating the viscosity of
     pectin-containing gels
IN   Albersheim, Peter; Djelineo-Albersheim, Ivana; Darvill, Alan
PA   University of Georgia Research Foundation, Inc., USA
SO   PCT Int. Appl., 67 pp.
     CODEN: PIX
DT   Patent
LA   English
IC   ICM  A61K
CC   7-2 (Enzym
     Section cr
FAN.CNT 1
     PATENT NO.          APPLICATION NO.        DATE
     ----------          ---------------        --------
PI   WO 2003017[illegible]5  WO 2002-US28066        20020903
     WO 2003017[illegible]  A3  20030612
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
             GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
             LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
             PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,
             UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD,
             RU, TJ, TM
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG,
             CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,
             PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,
             NE, SN, TD, TG
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CAS references not limited by date

PRAI US 2001-316777P P 20010831

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2003017950	ICM	A61K

AB This application discloses that two enzymes formerly known in the art as pectin methylesterase (PME) and endopolygalacturonidase (EPG) possess addnl. catalytic activities as pectin transester synthase (PTES) and pectin transesterase (PTE), resp. The PTES catalyzes the synthetic reaction that **covalently crosslinks** homogalacturonan chains in the primary cell wall via ester **bonds.** In a preferred embodiment, the PTES can be employed to form at least one ester or **amide bond** between two **polymers** or between a **polymer** and a monomeric compound The formation of one or more ester or **amide bonds** between two **polymers** can be employed to generate **crosslinked polymers**, affecting, for example, the rheol. properties of the **crosslinked** material. Specifically, the PTES of the present invention provides a new method of producing pectin-based mixed **polymers** by **crosslinking** homogalacturonan carrying acid groups with **polymer** mols. or monomeric mols. carrying hydroxy or **amine** groups via the formation of intermol. ester or **amide bonds.** The PTES is also useful in making a pectic gel consisting of homogalacturonans or of a mixture of homogalacturonan and any other **polysaccharides** in the absence of calcium via **crosslinking.** The pectic gel made according to the invention containing little or very little levels of calcium can be used as a gelling agent in foodstuffs, pharmaceuticals, and nutritional products. The pectin transesterase (PTE) disclosed herein catalyzes the hydrolysis of ester **bonds** between the carboxyl group(s) of galactosyluronic acid residues of one homogalacturonan chain and the O-2 and/or O-3-hydroxy group(s) of galactosyluronic acid residues of another homogalacturonan. PTE activity is shown to reduce the viscosity of pectin solns. in vitro. Thus, the PTE enzyme can be used as an additive to modify the fluidity of a variety of food and pharmaceutical prepns. containing pectin, in particular, juice, pastes, jellies, and jams.

ST pectin transester synthase methylesterase viscosity gel; transesterase pectin endopolygalacturonidase food additive

IT Functional groups
(alkoxycarbonyl groups, method for forming; discovery of pectin transester synthase and pectin transesterase activities in tomato pectin methylesterase and endopolygalacturonidase and use for regulating the viscosity of pectin-containing gels)

IT **Polysaccharides**, processes
RL: BCP (Biochemical process); BIOL (Biological study); PROC (Process)
(**crosslinking**; discovery of pectin transester synthase and pectin transesterase activities in tomato pectin methylesterase and endopolygalacturonidase and use for regulating the viscosity of pectin-containing gels)

IT **Crosslinking**
Food gelling
Food viscosity
(discovery of pectin transester synthase and pectin transesterase activities in tomato pectin methylesterase and endopolygalacturonidase and use for regulating the viscosity of pectin-containing gels)

IT Alcohols, processes
Amines, processes
Esters, processes
RL: BCP (Biochemical process); BIOL (Biological study); PROC (Process)
(discovery of pectin transester synthase and pectin transesterase activities in tomato pectin methylesterase and endopolygalacturonidase and use for regulating the viscosity of pectin-containing gels)

IT **Polymers**, preparation
RL: BPN (Biosynthetic preparation); BIOL (Biological study); PREP

(Preparation)
(discovery of pectin transester synthase and pectin transesterase activities in tomato pectin methylesterase and endopolygalacturonidase and use for regulating the viscosity of pectin-containing gels)

IT **Amide** group
(method for forming; discovery of pectin transester synthase and pectin transesterase activities in tomato pectin methylesterase and endopolygalacturonidase and use for regulating the viscosity of pectin-containing gels)

IT Lycopersicon esculentum
Nicotiana tabacum
Spinacia oleracea
(pectin transester synthase from; discovery of pectin transester synthase and pectin transesterase activities in tomato pectin methylesterase and endopolygalacturonidase and use for regulating the viscosity of pectin-containing gels)

IT Prunus domestica
Prunus persica
(pectin transesterase from; discovery of pectin transester synthase and pectin transesterase activities in tomato pectin methylesterase and endopolygalacturonidase and use for regulating the viscosity of pectin-containing gels)

IT **Biopolymers**
RL: BPN (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation)
(pectin-based mixed; discovery of pectin transester synthase and pectin transesterase activities in tomato pectin methylesterase and endopolygalacturonidase and use for regulating the viscosity of pectin-containing gels)

IT Gels
(pectin-containing; discovery of pectin transester synthase and pectin transesterase activities in tomato pectin methylesterase and endopolygalacturonidase and use for regulating the viscosity of pectin-containing gels)

IT Beverages
Food
Fruit and vegetable juices
(regulating the viscosity of; discovery of pectin transester synthase and pectin transesterase activities in tomato pectin methylesterase and endopolygalacturonidase and use for regulating the viscosity of pectin-containing gels)

IT **Crosslinking** agents
(use as; discovery of pectin transester synthase and pectin transesterase activities in tomato pectin methylesterase and endopolygalacturonidase and use for regulating the viscosity of pectin-containing gels)

IT 9046-38-2, Galacturonan
RL: BCP (Biochemical process); BIOL (Biological study); PROC (Process)
(PTES **crosslinking**; discovery of pectin transester synthase and pectin transesterase activities in tomato pectin methylesterase and endopolygalacturonidase and use for regulating the viscosity of pectin-containing gels)

IT 25104-18-1P, Poly-L-lysine 26853-89-4P, Poly-D-lysine 26913-90-6P, Poly-D-lysine 37294-28-3P, Xyloglucan 38000-06-5P, Poly-L-lysine
RL: BPN (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation)
(discovery of pectin transester synthase and pectin transesterase activities in tomato pectin methylesterase and endopolygalacturonidase and use for regulating the viscosity of pectin-containing gels)

IT 9000-69-5, Pectin
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(discovery of pectin transester synthase and pectin transesterase activities in tomato pectin methylesterase and endopolygalacturonidase

and use for regulating the viscosity of pectin-containing gels)

IT 9025-98-3, Pectin esterase
RL: BSU (Biological study, unclassified); CAT (Catalyst use); BIOL (Biological study); USES (Uses)
(discovery of pectin transester synthase and pectin transesterase activities in tomato pectin methylesterase and endopolygalacturonidase and use for regulating the viscosity of pectin-containing gels)

IT 9031-57-6, Synthase
RL: BSU (Biological study, unclassified); CAT (Catalyst use); BIOL (Biological study); USES (Uses)
(pectin transester; discovery of pectin transester synthase and pectin transesterase activities in tomato pectin methylesterase and endopolygalacturonidase and use for regulating the viscosity of pectin-containing gels)

IT 501062-44-8
RL: PRP (Properties)
(unclaimed protein sequence; discovery of pectin transester synthase and pectin transesterase activities in tomato pectin methylesterase and endopolygalacturonidase and use for regulating the viscosity of pectin-containing gels)

L94 ANSWER 2 OF 12 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2002:369012 HCAPLUS
DN 136:379289
ED Entered STN: 18 May 2002
TI Chloro-, hydroxy- and alkoxysilane derivatives of **polysaccharides** or **oligosaccharides**, **polymerizable** and **cross-linkable**, their synthesis and their use as sources of novel support materials
IN Duval, Raphael
PA Institut Francais du Petrole, Fr.; Chiralsep
SO U.S. Pat. Appl. Publ., 19 pp., Cont.-in-part of U.S. Ser. No. 394,868.
CODEN: USXXCO
DT Patent
LA English
IC ICM C07H001-00
NCL 526123100
CC 80-3 (Organic Analytical Chemistry)
Section cross-reference(s): 43

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002058763	A1	20020516	US 2001-808190	20010315
	US 6514407	B2	20030204		
	FR 2784109	A1	20000407	FR 1998-11377	19980911
	FR 2784109	B1	20030926		
	US 6346616	B1	20020212	US 1999-394868	19990913
PRAI	FR 1998-11377	A	19980911		
	US 1999-394868	A2	19990913		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2002058763	ICM	C07H001-00
	NCL	526123100
FR 2784109	ECLA	C07B057/00; C08B015/05; C08B037/00; C08B037/00M2B; C08B037/00M3; C08B037/00M2; C08B037/00M2D; C08B003/00M3B2; C08B037/00M2F; C08B037/00M6B; C08B037/00M7

AB There are described chloro-, hydroxy- and alkoxysilane derivs. of **polysaccharides** or **oligosaccharides** as novel compds. which are **polymerizable** and **cross-linkable**, and a method for obtaining them; novel support materials obtained from said derivs. and containing said silane derivs. of **polysaccharides**

or **oligosaccharides** chemical grafted by a **covalent bond** with the support and **polymerized** and **cross-linked** in a three-dimensional network and a method for obtaining them; as well as the use of said material supports in separation or in preparation of enantiomers, through employment in gaseous, liquid or supercrit. chromatog., by electrophoresis, electrochromatog. or by percolation processes through membranes containing said support materials.

ST chloro hydroxy alkoxysilane deriv **polysaccharide** **oligosaccharide** **polymerizable** stationary phase; silane functionalized **polysaccharide** chiral sepn; cellulose deriv silane functionalized chiral support

IT Chromatographic stationary phases
HPLC
Silylation
(chloro-, hydroxy- and alkoxysilane derivs. of **polysaccharides** or **oligosaccharides**, **polymerizable** and **cross-linkable**, synthesis and use as sources of novel support materials in chiral separation)

IT **Oligosaccharides**, reactions
Polysaccharides, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(chloro-, hydroxy- and alkoxysilane derivs. of **polysaccharides** or **oligosaccharides**, **polymerizable** and **cross-linkable**, synthesis and use as sources of novel support materials in chiral separation)

IT 119-53-9, Benzoin 487-26-3, Flavanone 1439-07-2, Trans-Stilbene oxide 3966-32-3, (R)-α-Methoxyphenyl acetic acid 5928-66-5, (R)-Benzoin 5928-67-6, (S)-Benzoin 7021-09-2, α-Methoxyphenyl acetic acid 13523-86-9, Pindolol 17002-31-2, (-)-Flavanone 25144-18-7, (+)-Trans-Stilbene oxide 26164-26-1, (S)-α-Methoxyphenyl acetic acid 26328-11-0, (S)-Pindolol 27439-12-9, (+)-Flavanone 40102-60-1, (-)-Trans-Stilbene oxide 68374-35-6, (R)-Pindolol
RL: ANT (Analyte); ANST (Analytical study)
(chloro-, hydroxy- and alkoxysilane derivs. of **polysaccharides** or **oligosaccharides**, **polymerizable** and **cross-linkable**, synthesis and use as sources of novel support materials in chiral separation)

IT 98-59-9, 4-Methylbenzene sulfonyl chloride 112-43-6, 10-Undecen-1-ol 120-47-8, Ethyl 4-hydroxybenzoate 4420-74-0, 3-Mercaptopropyltrimethoxysilane 38460-95-6, 10-Undecenoyl chloride 54132-75-1, 3,5-Dimethylphenyl isocyanate
RL: RCT (Reactant); RACT (Reactant or reagent)
(chloro-, hydroxy- and alkoxysilane derivs. of **polysaccharides** or **oligosaccharides**, **polymerizable** and **cross-linkable**, synthesis and use as sources of novel support materials in chiral separation)

IT 51148-67-5P 59100-95-7P, 4-(10-Undecenyloxy)benzoic acid 123598-41-4P, Ethyl 4-(10-undecenyloxy) benzoate 130747-08-9P, 4-(10-Undecenyloxy)benzoyl chloride
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(chloro-, hydroxy- and alkoxysilane derivs. of **polysaccharides** or **oligosaccharides**, **polymerizable** and **cross-linkable**, synthesis and use as sources of novel support materials in chiral separation)

IT 602-09-5P, [1,1'-Binaphthalene]-2,2'-diol 65487-67-4P, 9-Anthracenemethanol, .α.-(trifluoromethyl)-
RL: PUR (Purification or recovery); PREP (Preparation)
(enantiomeric separation of; chloro-, hydroxy- and alkoxysilane derivs. of **polysaccharides** or **oligosaccharides**, **polymerizable** and **cross-linkable**, synthesis and use as sources of novel support materials in chiral separation)

IT 170211-41-3P, Cellulose, (3,5-dimethylphenyl)carbamate 10-undecenoate
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and functionalization of; chloro-, hydroxy- and alkoxysilane derivs. of **polysaccharides** or **oligosaccharides**, **polymerizable** and **cross-linkable**, synthesis and use as sources of novel support materials in chiral separation)

IT 18531-94-7P, [1,1'-Binaphthalene]-2,2'-diol, (1R)- 18531-99-2P, [1,1'-Binaphthalene]-2,2'-diol, (1S)- 53531-34-3P, 9-Anthracenemethanol, α-(trifluoromethyl)-, (αR)- 60646-30-2P, 9-Anthracenemethanol, .α.-(trifluoromethyl)-, (S)-
RL: PUR (Purification or recovery); PREP (Preparation)
(separation of, from racemic mixts.; chloro-, hydroxy- and alkoxysilane derivs. of **polysaccharides** or **oligosaccharides**, **polymerizable** and **cross-linkable**, synthesis and use as sources of novel support materials in chiral separation)

IT 998-30-1DP, Triethoxysilane, reaction products with silica and cellulose (dimethylphenyl)carbamate undecenoate 7585-39-9DP, β-Cyclodextrin, derivs., reaction products with silica and functionalized silanes 7631-86-9DP, Silica, reaction products with functionalized silanes and cellulose (dimethylphenyl)carbamate undecenoate 9004-34-6DP, Cellulose, derivs., reaction products with silica and functionalized silanes **9004-54-0DP**, **Dextran**, derivs., reaction products with silica and functionalized silanes 9005-80-5DP, Inulin, derivs., reaction products with silica and functionalized silanes 9012-76-4DP, Chitosan, derivs., reaction products with silica and functionalized silanes 9051-95-0DP, α-1,3-Glucan, derivs., reaction products with silica and functionalized silanes 9051-97-2DP, β-D-Glucan, (1→3)-, derivs., reaction products with silica and functionalized silanes 9051-99-4DP, β-1,2-Glucan, derivs., reaction products with silica and functionalized silanes 9052-06-6DP, β-D-Mannan, (1→4)-, derivs., reaction products with silica and functionalized silanes 9057-02-7DP, Pullulan, derivs., reaction products with silica and functionalized silanes 9063-63-2DP, β-D-Xylan, (1→4)-, derivs., reaction products with silica and functionalized silanes 10025-78-2DP, Trichlorosilane, reaction products with silica and cellulose (dimethylphenyl)carbamate undecenoate 54724-00-4DP, Curdlan, derivs., reaction products with silica and functionalized silanes 92880-82-5DP, β-D-Fructan, (2→1)-, derivs., reaction products with silica and functionalized silanes 170211-41-3DP, Cellulose, (3,5-dimethylphenyl)carbamate 10-undecenoate, reaction products with silica and functionalized silanes
RL: NUU (Other use, unclassified); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(supports; chloro-, hydroxy- and alkoxysilane derivs. of **polysaccharides** or **oligosaccharides**, **polymerizable** and **cross-linkable**, synthesis and use as sources of novel support materials in chiral separation)

IT **9004-54-0DP**, **Dextran**, derivs., reaction products with silica and functionalized silanes
RL: NUU (Other use, unclassified); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(supports; chloro-, hydroxy- and alkoxysilane derivs. of **polysaccharides** or **oligosaccharides**, **polymerizable** and **cross-linkable**, synthesis and use as sources of novel support materials in chiral separation)

RN 9004-54-0 HCAPLUS
CN Dextran (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L94 ANSWER 3 OF 12 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2001:757812 HCAPLUS

DN 135:308889
ED Entered STN: 17 Oct 2001
TI **Crosslinked polysaccharide** drug **carrier**
IN **Spiro, Robert C.; Thompson, Andrea Y.; Liu, Linshu**
PA Orquest, Inc., USA
SO U.S., 7 pp., Cont.-in-part of U.S. Ser. No. 887,994, abandoned.
CODEN: USXXAM
DT Patent
LA English
IC ICM C08B037-00
ICS A61K031-715
NCL 514054000
CC 63-6 (Pharmaceuticals)
Section cross-reference(s): 33
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6303585	B1	20011016	US 1998-110381	19980701 <--
	US 2003012765	A1	20030116	US 2001-954855	20010917 <--
	US 6683064	B2	20040127		
	US 2004077592	A1	20040422	US 2003-679110	20031003 <--
PRAI	US 1997-887994	B2	19970703 <--		
	US 1998-110381	A1	19980701 <--		
	US 2001-954855	A1	20010917 <--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 6303585	ICM	C08B037-00
	ICS	A61K031-715
	NCL	514054000
US 2003012765	ECLA	A61K009/14H6; A61K047/36; A61K047/48K8; C08B037/00P2<--
US 2004077592	ECLA	A61K009/14H6; A61K047/36; A61K047/48K8; C08B037/00P2<--

AB A **carrier** and a method for preparing it are provided for use in the delivery of therapeutic agents. A **polysaccharide** is reacted with an oxidizing agent to open sugar rings on the **polysaccharide** to form **aldehyde** groups. The **aldehyde** groups are reacted to form **covalent oxime linkages** with a second **polysaccharide** and each of the first and second **polysaccharide** is selected from the group consisting of **hyaluronic** acid, **dextran**, **dextran sulfate**, **chondroitin sulfate**, **dermatan sulfate**, **keratan sulfate**, heparan, heparan **sulfate** and **alginate**. A **hyaluronate amine** derivative was prepared by treating **hyaluronic** acid with EDC and ethylenediamine.

ST **crosslinked polysaccharide** drug **carrier**
IT **Drug delivery systems**
(**carriers**; **crosslinked polysaccharide** drug **carrier**)
IT Bone formation
Crosslinking
Dissolution rate
(**crosslinked polysaccharide** drug **carrier**)
IT **Growth factors, animal**
Polysaccharides, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**crosslinked polysaccharide** drug **carrier**)
IT 107-15-3DP, Ethylenediamine, reaction products with **hyaluronic** acid **9004-61-9DP**, **Hyaluronic** acid, reaction products with ethylene diamine or oxidized
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(**crosslinked polysaccharide** drug **carrier**)
IT 106096-93-9, Basic fibroblast growth factor
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**crosslinked polysaccharide** drug **carrier**)
IT **9004-61-9**, **Hyaluronic** acid
RL: RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)
(**crosslinked polysaccharide** drug **carrier**)
IT **9004-54-0**, **Dextran**, biological studies **9005-32-7**
, **Alginic** acid **9005-49-6**, **Heparin**,
biological studies **9007-28-7**, **Chondroitin**
sulfate 9042-14-2, **Dextran sulfate**
9050-30-0, Heparan **sulfate 9056-36-4**, **Keratan**
sulfate 24967-94-0, **Dermatan sulfate**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**crosslinked polysaccharide** drug **carrier**)
RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Anon; WO 9641813 1996 HCAPLUS
(2) Anon; WO 9722371 1997 HCAPLUS
(3) Balazs; US 5128326 1992 HCAPLUS
(4) Brekke; US 5904717 1999
(5) Chanda; US 5645587 1997
(6) Dickerson; US 5677276 1997 HCAPLUS
(7) Fransson; Biochimica et Biophysioca Acta 1976, P106 HCAPLUS
(8) Streitwieser; Introduction to Organic Chemistry 1976, P378
(9) Tardy; US 4931546 1990 HCAPLUS
IT **9004-61-9DP**, **Hyaluronic** acid, reaction products with
ethylene diamine or oxidized
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(**crosslinked polysaccharide** drug **carrier**)
RN 9004-61-9 HCAPLUS
CN Hyaluronic acid (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT **9004-61-9**, **Hyaluronic** acid
RL: RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)
(**crosslinked polysaccharide** drug **carrier**)
RN 9004-61-9 HCAPLUS
CN Hyaluronic acid (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT **9004-54-0**, **Dextran**, biological studies **9005-32-7**
, **Alginic** acid **9005-49-6**, **Heparin**,
biological studies **9007-28-7**, **Chondroitin**
sulfate 9042-14-2, **Dextran sulfate**
9056-36-4, **Keratan sulfate 24967-94-0**
, **Dermatan sulfate**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**crosslinked polysaccharide** drug **carrier**)
RN 9004-54-0 HCAPLUS
CN Dextran (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 9005-32-7 HCAPLUS
CN Alginic acid (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 9005-49-6 HCAPLUS
CN Heparin (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 9007-28-7 HCAPLUS
CN Chondroitin, hydrogen sulfate (9CI) (CA INDEX NAME)

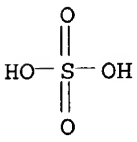
CM 1

CRN 9007-27-6
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 7664-93-9
CMF H2 O4 S



RN 9042-14-2 HCAPLUS
CN Dextran, hydrogen sulfate (9CI) (CA INDEX NAME)

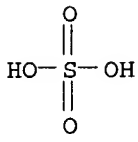
CM 1

CRN 9004-54-0
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 7664-93-9
CMF H2 O4 S



RN 9056-36-4 HCAPLUS
CN Keratosulfate (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 24967-94-0 HCAPLUS
CN Dermatan, hydrogen sulfate (ester) (9CI) (CA INDEX NAME)

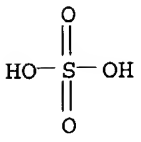
CM 1

CRN 75634-40-1
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 7664-93-9
CMF H2 O4 S



L94 ANSWER 4 OF 12 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2001:505555 HCAPLUS
DN 135:305439
ED Entered STN: 13 Jul 2001
TI Grafting of β-cyclodextrin onto starch and cellulose derivatives. Quantitative evaluation of bound cyclodextrin
AU Carrazana Garcia, J.; Villamarin, S. F.; Vazquez Tato, J.
CS Departamento de Quimica Fisica, Universidad de Santiago de Compostela, Lugo, 27002, Spain
SO Cyclodextrin: From Basic Research to Market, International Cyclodextrin Symposium, 10th, Ann Arbor, MI, United States, May 21-24, 2000 (2000), 318-323 Publisher: Wacker Biochem Corp., Adrian, Mich.
CODEN: 69BFYD
DT Conference; (computer optical disk)
LA English
CC 44-6 (Industrial Carbohydrates)
AB Grafting reactions were developed via ester and **amide linkage** between **polysaccharides** (starch, CM-cellulose, hydroxypropyl Me cellulose, hydroxyethyl cellulose) and cyclodextrins (β-cyclodextrin (CD), CD-monoamine (CDNH2), monoclorotriazinyl-CD (MCT)). In the cases of CD and CDNH2, the **linking** agent was the dianhydride of the 1,2,4,5-tetrabenzoic acid. The MCT has itself an anchorage point for **binding** to **polysaccharides.** The synthesis products were purified by ultrafiltration and examined by TLC, UV-Vis, FTIR, and 1H-NMR, demonstrating the **covalent binding** of cyclodextrins to the **polysaccharide** chains. Starch, hydroxyethyl cellulose, and CM-cellulose have no observable effect on the visible absorption band of the Methyl orange, hence the amount of cyclodextrin bound per g of these **polymers** can be quant. evaluated. The grafting reaction here reported gives products with ≤17 g CD per 100 g of **polymer.**
ST cyclodextrin deriv graft **polymn polysaccharide** tetrabenzoic acid dianhydride **crosslinker**
IT **Polymerization**
(graft; grafting of cyclodextrin derivs. onto starch and cellulose derivs. using tetrabenzoic acid dianhydride **crosslinker**)
IT **Crosslinking** agents
(grafting of cyclodextrin derivs. onto starch and cellulose derivs. using tetrabenzoic acid dianhydride **crosslinker**)
IT **Polysaccharides**, processes
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(grafting of cyclodextrin derivs. onto starch and cellulose derivs. using tetrabenzoic acid dianhydride **crosslinker**)
IT 7585-39-9, β-Cyclodextrin 9004-32-4, Carboxymethyl cellulose sodium salt 9004-62-0, Hydroxyethyl cellulose 9004-65-3, Hydroxypropylmethyl cellulose 9005-25-8, Starch, processes 29390-67-8, 6-Deoxy-6-amino-β-cyclodextrin 185464-55-5, BETA W 7MCT

RL: PEP (Physical, engineering or chemical process); PROC (Process)
(grafting of cyclodextrin derivs. onto starch and cellulose derivs. using tetrabenzoic acid dianhydride **crosslinker**)

IT 89-32-7
RL: NUU (Other use, unclassified); USES (Uses)
(**linking** agent; grafting of cyclodextrin derivs. onto starch and cellulose derivs. using tetrabenzoic acid dianhydride **crosslinker**)

RE.CNT 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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(2) Benesi, H; J Am Chem Soc 1949, V71, P2703 HCAPLUS
(3) Bruce Martin, R; J Chem Ed 1997, V74(10), P1238
(4) Buscmann, H; J Incl Phen 1997, V29, P167
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(22) Tawarah, K; J Incl Phen 1992, V14, P195 HCAPLUS
(23) Wang, A; Bull Chem Soc 1994, V67, P2817
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(25) Wilson, E; C & T 1999, P32

L94 ANSWER 5 OF 12 HCAPLUS COPYRIGHT 2004 ACS on STN
AN **2000:911116** HCAPLUS
DN **134:61557**
ED Entered STN: 29 Dec 2000
TI Injectable **hyaluronate-sulfated polysaccharide** conjugates
IN **Spiro, Robert C.; Liu, Linshu**
PA Orquest, Inc., USA
SO PCT Int. Appl., 23 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM A61K047-48
ICS A61K047-36; A61K009-14
CC 63-6 (Pharmaceuticals)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2000078356	A1	20001228	WO 2000-US16793	20000616

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ,

CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
US 6288043 B1 20010911 US 1999-336005 19990618
EP 1187636 A1 20020320 EP 2000-944722 20000616
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, MC, PT, IE, SI, LT, LV, FI, RO
JP 2003502389 T2 20030121 JP 2001-504418 20000616
AU 771500 B2 20040325 AU 2000-58778 20000616
PRAI US 1999-336005 A 19990618
WO 2000-US16793 W 20000616

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2000078356	ICM	A61K047-48
	ICS	A61K047-36; A61K009-14

AB An injectable composition is provided for promoting bone and/or cartilage growth comprising **hyaluronic** acid **cross-linked** to **sulfated polysaccharide** through **linking** groups. The **linking** groups are diamines or amino polyalkylene glycols. The **sulfated polysaccharide binds** growth factors suitable for promoting tissue growth at the site of application of the composition Gels were formed by the conjugation of **hyaluronic** acid carrying primary **amine** group with **heparin** carrying active **aldehyde** group. Basic fibroblast growth factor (I) was incorporated into the gel and release kinetics of the I was studied.

ST injection **hyaluronate sulfated polysaccharide** conjugate gel

IT Polyoxyalkylenes, biological studies
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(conjugates with **sulfated polysaccharide** and **hyaluronates**; injectable **hyaluronate-sulfated polysaccharide** conjugates)

IT **Amines**, biological studies
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(diamines, conjugates with **sulfated polysaccharide** and **hyaluronates**; injectable **hyaluronate-sulfated polysaccharide** conjugates)

IT Growth factors, animal
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(differentiation; injectable **hyaluronate-sulfated polysaccharide** conjugates)

IT **Drug delivery systems**
(**gels**; injectable **hyaluronate-sulfated polysaccharide** conjugates)

IT **Mucopolysaccharides**, biological studies
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(hexuronylhexosaminoglycan **sulfate**, conjugates with **hyaluronates**; injectable **hyaluronate-sulfated polysaccharide** conjugates)

IT Bone
Cartilage
(injectable **hyaluronate-sulfated polysaccharide** conjugates)

IT Growth factors, animal
RL: BAC (Biological activity or effector, except adverse); BSU (Biological

study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(injectable **hyaluronate-sulfated polysaccharide** conjugates)

IT **Drug delivery systems**
(**injections**; injectable **hyaluronate-sulfated polysaccharide** conjugates)

IT **Polysaccharides**, biological studies
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**sulfated**, conjugates with **hyaluronates**; injectable **hyaluronate-sulfated polysaccharide** conjugates)

IT Transforming growth factors
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(β-; injectable **hyaluronate-sulfated polysaccharide** conjugates)

IT 107-15-3D, Ethylene diamine, conjugates with **hyaluronates** and **sulfated polysaccharides** 124-09-4D, 1,6-Hexanediamine, conjugates with **hyaluronates** and **sulfated polysaccharides**, biological studies 2783-17-7D, 1,12-Dodecanediamine, conjugates with **hyaluronates** and **sulfated polysaccharides** **9004-61-9D**, **Hyaluronic** acid, conjugates with **sulfated polysaccharides** **9005-49-6D**, **Heparin**, conjugates with **hyaluronates**, biological studies **9007-28-7D**, **Chondroitin sulfate**, conjugates with **hyaluronates** **9042-14-2D**, **Dextran sulfate**, conjugates with **hyaluronates** 9050-30-0D, Heparan **sulfate**, conjugates with **hyaluronates** **9056-36-4D**, **Keratan sulfate**, conjugates with **hyaluronates** 23330-83-8D, conjugates with **hyaluronates** **24967-94-0D**, **Dermatan sulfate**, conjugates with **hyaluronates** 57680-56-5D, Sucrose **octasulfate**, conjugates with **hyaluronates** 61912-98-9, Igf 62031-54-3, Fgf 62229-50-9, Egf 106096-93-9, FGF 2
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(injectable **hyaluronate-sulfated polysaccharide** conjugates)

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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(2) Lin-Shu, L; BIOMATERIALS 1999, V20, P1097
(3) Orquest Inc; WO 9901143 A 1999 HCAPLUS
(4) Societe de Conseils de Recherches Et D'Applications Scientifiques; FR 2752843 A 1998 HCAPLUS

IT **9004-61-9D**, **Hyaluronic** acid, conjugates with **sulfated polysaccharides** **9005-49-6D**, **Heparin**, conjugates with **hyaluronates**, biological studies **9007-28-7D**, **Chondroitin sulfate**, conjugates with **hyaluronates** **9042-14-2D**, **Dextran sulfate**, conjugates with **hyaluronates** **9056-36-4D**, **Keratan sulfate**, conjugates with **hyaluronates** **24967-94-0D**, **Dermatan sulfate**, conjugates with **hyaluronates**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(injectable **hyaluronate-sulfated polysaccharide** conjugates)
RN 9004-61-9 HCAPLUS
CN Hyaluronic acid (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 9005-49-6 HCAPLUS
CN Heparin (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 9007-28-7 HCAPLUS
CN Chondroitin, hydrogen sulfate (9CI) (CA INDEX NAME)

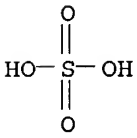
CM 1

CRN 9007-27-6
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 7664-93-9
CMF H2 O4 S



RN 9042-14-2 HCAPLUS
CN Dextran, hydrogen sulfate (9CI) (CA INDEX NAME)

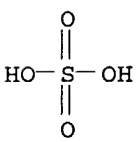
CM 1

CRN 9004-54-0
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 7664-93-9
CMF H2 O4 S



RN 9056-36-4 HCAPLUS
CN Keratosulfate (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 24967-94-0 HCAPLUS

CN Dermatan, hydrogen sulfate (ester) (9CI) (CA INDEX NAME)

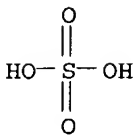
CM 1

CRN 75634-40-1
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 7664-93-9
CMF H2 O4 S



L94 ANSWER 6 OF 12 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:297331 HCAPLUS
DN 130:342996
ED Entered STN: 14 May 1999
TI **Heparin-binding** growth factor derivatives
IN Gallagher, John Thomas; Pye, David Alexander
PA Cancer Research Campaign Technology Limited, UK
SO PCT Int. Appl., 76 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM A61K047-48
CC 63-6 (Pharmaceuticals)
Section cross-reference(s): 2
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9921588	A1	19990506	WO 1998-GB3201	19981028
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	AU 9910391	A1	19990517	AU 1999-10391	19981028
PRAI	GB 1997-22604		19971028		
	WO 1998-GB3201		19981028		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 9921588	ICM	A61K047-48

AB **Covalently crosslinked** conjugates of **heparin** **-binding** growth factors and **heparin** or heparan **sulfate** (HS) **oligosaccharides** which can be used as therapeutic agents for modulating the biol. activity of such growth factors and/or for targeted delivery of drugs are disclosed. Such conjugates enable exogenous growth factors to be administered to mammals

for medical treatment so as either to promote or to inhibit growth factor biol. activity, or to act as targeting **carriers** of drug mols. **linked** thereto. **Covalent crosslinked** conjugates of HS **oligosaccharides** and basic fibroblast growth factor were prepared

ST **heparin binding** growth factor deriv conjugate

IT Bone morphogenetic proteins
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(2; **heparin-binding** growth factor derivs.)

IT **Growth factors, animal**
RL: RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)
(NEL-GF (gene neu/erb B2) protein ligand; **heparin-binding** growth factor derivs.)

IT Mitogens
(Schwann cell; **heparin-binding** growth factor derivs.)

IT **Drug targeting**
(**heparin-binding** growth factor derivs.)

IT **Growth factors, animal**
Hepatocyte **growth factor**
Insulin-like **growth factor-binding** proteins
Interleukin 10
Interleukin 12
Interleukin 1α
Interleukin 1β
Interleukin 2
Interleukin 3
Interleukin 4
Interleukin 6
Interleukin 7
Interleukin 8
Midkines
Neutrophil-activating peptide-2
Oligosaccharides, biological studies
Platelet-derived **growth factors**
Pleiotrophins
Tumor necrosis factors
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**heparin-binding** growth factor derivs.)

IT **Growth factors, animal**
RL: RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)
(**heparin-binding**; **heparin-binding** growth factor derivs.)

IT Lymphokines
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(lymphotactins; **heparin-binding** growth factor derivs.)

IT **Cytokines**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(migration-stimulating factor; **heparin-binding** growth factor derivs.)

IT Transforming **growth factors**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(β-; **heparin-binding** growth factor derivs.)

IT Interferons
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(γ; **heparin-binding** growth factor derivs.)

IT **9005-49-6, Heparin**, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**heparin-binding** growth factor derivs.)

IT 9050-30-0, Heparan **sulfate** 106096-93-9D, Basic fibroblast

growth factor, conjugates, with **heparin oligosaccharides**
117048-59-6D, Combretastatin, derivs.
RL: RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)
(**heparin-binding** growth factor derivs.)
IT 37270-94-3, Platelet factor 4 62031-54-3, Fibroblast growth factor 67763-96-6, Insulin-like growth factor I 67763-97-7, Insulin-like growth factor 2 75775-33-6, Purpurin 83869-56-1, GM-CSF 86090-08-6, Angiostatin 117147-70-3, Amphiregulin 127464-60-2, Vascular endothelial growth factor 187888-07-9, Endostatin
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**heparin-binding** growth factor derivs.)
RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Cancer Res Campaign Tech; WO 9319096 A 1993 HCAPLUS
(2) Collagen Corp; WO 9401483 A 1994 HCAPLUS
(3) Habuchi, H; Biochem J 1992, V285(3), P805 HCAPLUS
(4) Imp Cancer Res Tech; WO 9318793 A 1993 HCAPLUS
(5) Massachusetts Inst Technology; WO 8912464 A 1989 HCAPLUS
(6) Nadkarni, V; Anal Biochem 1994, V222(1), P59 HCAPLUS
(7) Seikagaku Kogyo Co Ltd; EP 0509517 A 1992 HCAPLUS
(8) Seikagaku Kogyo Co Ltd; EP 0554898 A 1993 HCAPLUS
IT **9005-49-6**, **Heparin**, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**heparin-binding** growth factor derivs.)
RN 9005-49-6 HCAPLUS
CN Heparin (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L94 ANSWER 7 OF 12 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:48632 HCAPLUS
DN 130:100691
ED Entered STN: 25 Jan 1999
TI **Crosslinked polysaccharide** drug **carrier**
IN **Spiro, Robert C.; Thompson, Andrea Y.; Liu, Linshu**
PA Orquest, Inc., USA
SO PCT Int. Appl., 28 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM A61K031-715
ICS A61K009-14
CC 63-6 (Pharmaceuticals)
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9901143	A1	19990114	WO 1998-US13997	19980701 <--
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	AU 9882909	A1	19990125	AU 1998-82909	19980701 <--
	AU 752800	B2	20021003		
	EP 1011690	A1	20000628	EP 1998-933196	19980701 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, SE, PT, IE, FI				
	JP 2002509538	T2	20020326	JP 1999-507459	19980701 <--
	NZ 502134	A	20020328	NZ 1998-502134	19980701 <--

PRAI US 1997-887994 A 19970703 <--
WO 1998-US13997 W 19980701 <--

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 9901143	ICM	A61K031-715
	ICS	A61K009-14
WO 9901143	ECLA	A61K009/14H6; A61K047/36; A61K047/48K8; C08B037/00P2<--

AB A **carrier** and a method for preparing it are provided for use in the delivery of therapeutic agents. A **polysaccharide** is reacted with an oxidizing agent to open sugar rings on the **polysaccharide** to form **aldehyde** groups. The **aldehyde** groups are reacted to form **covalent oxime linkages** with a second **polysaccharide** and each of the first and second **polysaccharide** is selected from the group consisting of **hyaluronic** acid, **dextran**, **dextran sulfate**, **chondroitin sulfate**, **dermatan sulfate**, **keratan sulfate**, heparan, heparan **sulfate** and **alginate**. **Hyaluronic** acid was treated with ethylenediamine and EDC to give a derivative, which was mixed with an oxidized **hyaluronic** acid to form a gel. BFGF was incorporated into the above gel.

ST **crosslinked polysaccharide biodegradable carrier**; **hyaluronate crosslinked** gel bFGF implant

IT **Drug delivery systems**
(**carriers**; **crosslinked polysaccharide** drug **carriers**)

IT Bone formation
(**crosslinked polysaccharide** drug **carriers**)

IT **Polysaccharides**, biological studies
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(**crosslinked polysaccharide** drug **carriers**)

IT **Cytokines**
DNA
Growth factors, animal
Hormones, animal, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**crosslinked polysaccharide** drug **carriers**)

IT **Drug delivery systems**
(implants; **crosslinked polysaccharide** drug **carriers**)

IT **9004-54-0D**, **Dextran**, derivs., **crosslinked**, biological studies **9005-32-7D**, **Alginic** acid, derivs., **crosslinked 9005-49-6D**, **Heparin**, derivs., **crosslinked**, biological studies **9042-14-2D**, **Dextran sulfate**, derivs., **crosslinked** 9050-30-0D, Heparan **sulfate**, derivs., **crosslinked** **9056-36-4D**, **Keratan sulfate**, derivs., **crosslinked 24967-94-0D**, **Dermatan sulfate**, derivs., **crosslinked** 62031-54-3, Fibroblast growth factor
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**crosslinked polysaccharide** drug **carriers**)

IT **9004-61-9**, **Hyaluronic** acid
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of **crosslinked polysaccharide** drug **carriers**)

IT **9004-61-9DP, Hyaluronic** acid, derivs., **crosslinked 9007-28-7DP, Chondroitin sulfate**, derivs., **crosslinked** with **hyaluronate**
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of **crosslinked polysaccharide** drug **carriers**)

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE
(1) Balazs; US 5128326 A 1992 HCAPLUS
(2) Chanda; US 5645587 A 1997
(3) Collagen Corporation; WO 9722371 A1 1997 HCAPLUS
(4) Dickerson; US 5677276 A 1997 HCAPLUS
(5) Fransson, L; Biochimica Biophysica Acta 1976, V437(1), P106 HCAPLUS
(6) Offord; WO 9641813 A2 1996 HCAPLUS

IT **9004-54-0D, Dextran**, derivs., **crosslinked**, biological studies **9005-32-7D, Alginic** acid, derivs., **crosslinked 9005-49-6D, Heparin**, derivs., **crosslinked**, biological studies **9042-14-2D, Dextran sulfate**, derivs., **crosslinked 9056-36-4D, Keratan sulfate**, derivs., **crosslinked 24967-94-0D, Dermatan sulfate**, derivs., **crosslinked**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**crosslinked polysaccharide** drug **carriers**)

RN 9004-54-0 HCAPLUS
CN Dextran (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 9005-32-7 HCAPLUS
CN Alginic acid (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 9005-49-6 HCAPLUS
CN Heparin (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 9042-14-2 HCAPLUS
CN Dextran, hydrogen sulfate (9CI) (CA INDEX NAME)

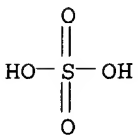
CM 1

CRN 9004-54-0
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 7664-93-9
CMF H2 O4 S



RN 9056-36-4 HCAPLUS

CN Keratosulfate (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 24967-94-0 HCAPLUS
CN Dermatan, hydrogen sulfate (ester) (9CI) (CA INDEX NAME)

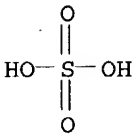
CM 1

CRN 75634-40-1
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 7664-93-9
CMF H2 O4 S



IT **9004-61-9**, **Hyaluronic** acid
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of **crosslinked polysaccharide** drug **carriers**)
RN 9004-61-9 HCAPLUS
CN Hyaluronic acid (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT **9004-61-9DP**, **Hyaluronic** acid, derivs., **crosslinked 9007-28-7DP**, **Chondroitin sulfate**, derivs., **crosslinked** with **hyaluronate**
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of **crosslinked polysaccharide** drug **carriers**)
RN 9004-61-9 HCAPLUS
CN Hyaluronic acid (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 9007-28-7 HCAPLUS
CN Chondroitin, hydrogen sulfate (9CI) (CA INDEX NAME)

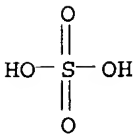
CM 1

CRN 9007-27-6
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 7664-93-9
CMF H2 O4 S



L94 ANSWER 8 OF 12 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1997:745977 HCAPLUS
DN 128:26965
ED Entered STN: 27 Nov 1997
TI New medicaments containing gelatin **crosslinked** with oxidized **polysaccharides**
IN Schacht, Etienne; Draye, Jean-Pierre; Delaey, Bernard
PA Innogenetics N.V., Belg.
SO PCT Int. Appl., 71 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM A61L025-00
ICS A61L015-32; A61L015-44; A61L015-46; A61K009-70; A61K009-16; A61K009-12; A61K009-20
CC 63-8 (Pharmaceuticals)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9741899	A1	19971113	WO 1997-EP2279	19970505
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	CA 2251129	AA	19971113	CA 1997-2251129	19970505
	AU 9729520	A1	19971126	AU 1997-29520	19970505
	AU 725654	B2	20001019		
	EP 914168	A1	19990512	EP 1997-923846	19970505
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 2000511512	T2	20000905	JP 1997-539529	19970505
	US 6132759	A	20001017	US 1998-180057	19981027
PRAI	EP 1996-870059	A	19960503		
	WO 1997-EP2279	W	19970505		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 9741899	ICM	A61L025-00
	ICS	A61L015-32; A61L015-44; A61L015-46; A61K009-70; A61K009-16; A61K009-12; A61K009-20
US 6132759	ECLA	A61K009/70B; A61L015/32; A61L015/44; A61L015/46; A61L025/00E6E

AB The present invention relates to a medicament comprising a **biopolymer** matrix comprising gelatin **crosslinked** with an oxidized **polysaccharide.** Preferably said oxidized **polysaccharide** comprises an oxidized **dextran** or an oxidized xanthan. Preferably said medicament is a wound dressing. Preferably said matrix is in the form of a hydrated film, a hydrated or dry foam, dry fibers which may be fabricated into a woven or non-woven tissue, hydrated or dry micro beads, dry powder; or said matrix is covered with a semipermeable film, so as to control the humidity of the wound

covered with the dressing, with the permeability chosen so as to maintain this humidity within a therapeutically optimal window. The invention also relates to a controlled release device comprising a **biopolymer** matrix comprising gelatin **crosslinked** with an oxidized **polysaccharide** into which a therapeutically effective amount of a drug is non-**covalently** incorporated. Preferably also addnl. compds. are immobilized, said compds. having substantial affinity for the incorporated drug, so as to slow down the release of the drug from the matrix and/or stabilizing the drug. The present invention also relates to a wound dressing comprising such a slow or controlled release device. Preferably said matrix is covered with a semipermeable film, with a permeability chosen so as to control the humidity of the wound covered with the dressing, and to maintain the humidity within a therapeutically optimal window. Preferably multiple forms of said matrix are combined to form a wound dressing, each form having different properties with respect to chemical composition and phys. and controlled release characteristics. Preferably into each of the multiple forms one or more different active factors are non-**covalently** incorporated. Preferably, the invention relates to a wound dressing wherein one or more of the active factors belong to any of the following groups: EGF-like factors, FGF-like factors, TGF-β-like factors, IGF-like factors, PDGF-like factors, keratinocyte cell lysate. The invention further relates to methods of producing and using said wound dressings or said controlled or slow release devices as defined above.

ST wound dressing gelatin **crosslinked** oxidized **polysaccharide**

IT Drug delivery systems
(controlled-release; medicaments containing gelatin **crosslinked** with oxidized **polysaccharides**)

IT Gelatins, biological studies
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(**crosslinked**; medicaments containing gelatin **crosslinked** with oxidized **polysaccharides**)

IT Medical goods
(dressings; medicaments containing gelatin **crosslinked** with oxidized **polysaccharides**)

IT Growth factors, animal
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**heparin-binding**; medicaments containing gelatin **crosslinked** with oxidized **polysaccharides**)

IT Skin
(keratinocyte; medicaments containing gelatin **crosslinked** with oxidized **polysaccharides**)

IT Antibacterial agents
Wound healing promoters
(medicaments containing gelatin **crosslinked** with oxidized **polysaccharides**)

IT Growth factors, animal
Platelet-derived growth factors
Synthetic fibers
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(medicaments containing gelatin **crosslinked** with oxidized **polysaccharides**)

IT **Polysaccharides**, biological studies
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(oxidized; medicaments containing gelatin **crosslinked** with oxidized **polysaccharides**)

IT **9004-54-0DP**, **Dextran**, oxidized, **crosslinked** with gelatin, biological studies 11138-66-2DP, Xanthan, oxidized, **crosslinked** with gelatin
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use);

BIOL (Biological study); PREP (Preparation); USES (Uses)
(medicaments containing gelatin **crosslinked** with oxidized **polysaccharides**)

IT **9005-49-6**, **Heparin**, biological studies **9007-28-7**, **Chondroitin sulfate 9042-14-2**, **Dextran sulfate** 9050-30-0, Heparan **sulfate 24967-94-0**, **Dermatan sulfate** 61912-98-9, Insulin-like growth factor 62031-54-3, Fibroblast growth factor 62229-50-9, Epidermal growth factor 127464-60-2, Vascular endothelial growth factor
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(medicaments containing gelatin **crosslinked** with oxidized **polysaccharides**)

IT **9004-54-0DP**, **Dextran**, oxidized, **crosslinked** with gelatin, biological studies
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(medicaments containing gelatin **crosslinked** with oxidized **polysaccharides**)

RN 9004-54-0 HCAPLUS
CN Dextran (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT **9005-49-6**, **Heparin**, biological studies **9007-28-7**, **Chondroitin sulfate 9042-14-2**, **Dextran sulfate 24967-94-0**, **Dermatan sulfate**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(medicaments containing gelatin **crosslinked** with oxidized **polysaccharides**)

RN 9005-49-6 HCAPLUS
CN Heparin (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 9007-28-7 HCAPLUS
CN Chondroitin, hydrogen sulfate (9CI) (CA INDEX NAME)

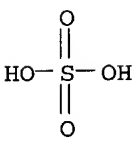
CM 1

CRN 9007-27-6
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 7664-93-9
CMF H2 O4 S



RN 9042-14-2 HCAPLUS
CN Dextran, hydrogen sulfate (9CI) (CA INDEX NAME)

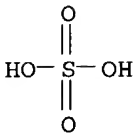
CM 1

CRN 9004-54-0
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 7664-93-9
CMF H2 O4 S



RN 24967-94-0 HCAPLUS
CN Dermatan, hydrogen sulfate (ester) (9CI) (CA INDEX NAME)

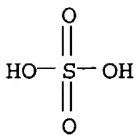
CM 1

CRN 75634-40-1
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 7664-93-9
CMF H2 O4 S



L94 ANSWER 9 OF 12 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1997:443159 HCAPLUS
DN 127:53279
ED Entered STN: 17 Jul 1997
TI Method for reducing the permeability of a zone of high permeability in an oil-bearing subterranean formation, and method for breaking a gel
IN Christensen, Bjoern E.; Smidsroed, Olav; Kleppe, Gunnar; Stokke, Bjoern Torger
PA Statoil - Den Norske Stats Oljeselskap AS, Norway
SO Norw., 23 pp.
CODEN: NOXXAJ
DT Patent
LA Norwegian
IC ICM E21B043-22
ICS E21B043-25
CC 51-2 (Fossil Fuels, Derivatives, and Related Products)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

PI NO 180730 B 19970224 NO 1994-4690 19941205
NO 9404690 A 19960606
NO 180730 C 19970604
PRAI NO 1994-4690 19941205

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
NO 180730	ICM	E21B043-22
	ICS	E21B043-25

AB In this process, in which the zone of high permeability is injected with gelable composition comprising water, a **polysaccharide** having vicinal hydroxyl group-containing carbohydrate side chains, and a **crosslinking** agent, the **polysaccharide** contains ≥1 repeating units selected from (1-6)-branched (1-3)-β-D-glucans, and the **crosslinking** agent is capable of breaking **covalent bonds** between C atoms bearing vicinal hydroxyl groups, under formation of **aldehyde** functions. The method for breaking a gel comprises injecting into the zone containing the gel an aqueous composition comprising 0.2-5 weight% reducing agent or oxidizing agent, optionally after a pretreatment comprising injecting the zone with an aqueous solution of a combination of a triple spiral-destabilizing agent and a catalyst with the purpose of causing accidental breakage of the main chain of the **polysaccharide.** The method does not require rigorous pH control, and the **crosslinking** agents can be used with the above **biopolymers** in high-temperature reservoirs.

ST petroleum recovery flooding waterflood gel; **polysaccharide crosslinking** agent gel; scleroglucan **polysaccharide**; schizophyllan **polysaccharide**; metaperiodate sodium potassium **crosslinking** agent; ocean water **polysaccharide crosslinking** agent gel; breaking agent gel; sodium borohydride reducing agent gel; chlorite sodium oxidizing agent gel; hydroxide gel breaking agent

IT Petroleum recovery
(by flooding, waterflood; method for reducing permeability of zone of high permeability in oil-bearing subterranean formation for)

IT **Polysaccharides**, uses
RL: NUU (Other use, unclassified); USES (Uses)
(gel-forming compns. containing **crosslinking** agents and; method for reducing permeability of zone of high permeability in oil-bearing subterranean formation with)

IT Seawater
(gel-forming compns. containing **polysaccharides** and **crosslinking** agents and; method for reducing permeability of zone of high permeability in oil-bearing subterranean formation with)

IT **Crosslinking** agents
(gel-forming compns. containing **polysaccharides** and; method for reducing permeability of zone of high permeability in oil-bearing subterranean formation with)

IT 7790-21-8, Potassium metaperiodate 7790-28-5, Sodium metaperiodate
RL: NUU (Other use, unclassified); USES (Uses)
(**crosslinking** agent, gel-forming compns. containing **polysaccharides** and; method for reducing permeability of zone of high permeability in oil-bearing subterranean formation with)

IT 9050-67-3, Schizophyllan 39464-87-4, Scleroglucan
RL: NUU (Other use, unclassified); USES (Uses)
(gel-forming compns. containing **crosslinking** agents and; method for reducing permeability of zone of high permeability in oil-bearing subterranean formation with)

IT 7758-19-2, Sodium chlorite
RL: NUU (Other use, unclassified); USES (Uses)
(oxidizing agent, acetic acid containing; method breaking gels in oil-bearing subterranean formation with)

IT 64-19-7, Acetic acid, uses
RL: NUU (Other use, unclassified); USES (Uses)
(oxidizing agent, sodium chlorite-containing; method breaking gels in oil-bearing subterranean formation with)
IT 1310-58-3, Potassium hydroxide, uses 1310-73-2, Sodium hydroxide, uses
RL: NUU (Other use, unclassified); USES (Uses)
(pretreatment with; in method for breaking gels in oil-bearing subterranean formation)
IT 16940-66-2, Sodium borohydride
RL: NUU (Other use, unclassified); USES (Uses)
(reducing agent; method breaking gels in an oil-bearing subterranean formation with)

L94 ANSWER 10 OF 12 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1995:362499 HCAPLUS
DN 122:142552
ED Entered STN: 21 Feb 1995
TI Amplification of the vitamin B12 uptake system using **polymers**
IN Russell-Jones, Gregory John; Westwood, Steven William; Gould, Alison Ruth; McInerney, Bernard Vincent
PA Biotech Australia Pty. Ltd., Australia
SO PCT Int. Appl., 36 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM A61K047-48
ICS A61K031-68; A61K037-02
CC 63-6 (Pharmaceuticals)
Section cross-reference(s): 26, 34
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9427641	A1	19941208	WO 1994-AU273	19940524
	W: AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, ES, FI, GB, GE, HU, JP, KG, KP, KR, KZ, LK, LU, LV, MD, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, US, UZ, VN				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	US 5449720	A	19950912	US 1993-64892	19930524
	CA 2163226	AA	19941208	CA 1994-2163226	19940524
	AU 9467903	A1	19941220	AU 1994-67903	19940524
	AU 706723	B2	19990624		
	ZA 9403599	A	19951124	ZA 1994-3599	19940524
	BR 9406725	A	19960206	BR 1994-6725	19940524
	EP 701448	A1	19960320	EP 1994-916096	19940524
	EP 701448	B1	20020814		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
	CN 1126441	A	19960710	CN 1994-192682	19940524
	JP 08510261	T2	19961029	JP 1994-500022	19940524
	HU 75058	A2	19970328	HU 1995-3343	19940524
	RU 2139732	C1	19991020	RU 1995-122664	19940524
	PL 177400	B1	19991130	PL 1994-311740	19940524
	IL 109745	A1	20000131	IL 1994-109745	19940524
	AT 222123	E	20020815	AT 1994-916096	19940524
PRAI	US 1993-64892	A	19930524		
	WO 1994-AU273	W	19940524		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 9427641	ICM	A61K047-48
	ICS	A61K031-68; A61K037-02
US 5449720	ECLA	A61K047/48H6H; A61K047/48H6D; C07K007/02; C07K007/23; C07K014/00B

AB An oral delivery of peptide and protein pharmaceuticals comprises of the use of vitamin B12 (VB12) uptake system, with the delivery being amplified using **polymers.** A complex has the general formula: (V-Q)n-P-(Q'-A)m, where V is a **carrier** which will **bind** to natural intrinsic factor (IF) selected from vitamin B12 or its analog, n is the molar substitution ratio of V in the complex (.apprx.1-10), P is a pharmaceutically acceptable **polymer**, A is a pharmaceutically active substance, m is the molar substitution ratio of A in the complex (>1-1000), Q and Q' are independently a **covalent bond**, or a spacer compound **linking** V, P and A by **covalent bonds.** Multi-lysine **polymers** were prepared and conjugated with ANTIDE-1, ANTIDE-3 and VB12 using non-cleavable homo bifunctional **crosslinkers.**

ST oral drug vitamin B12 transport system; protein delivery vitamin B12 transport system; peptide delivery vitamin B12 transport system; **polymer** vitamin B12 transport system pharmaceutical

IT Urethane **polymers**, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(amplification of vitamin B12 transport system using **polymers** for oral delivery of peptides and proteins)

IT Animal growth regulators
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(amplification of vitamin B12 transport system using **polymers** for oral delivery of peptides and proteins)

IT **Hormones**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(amplification of vitamin B12 transport system using **polymers** for oral delivery of peptides and proteins)

IT Interferons
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(amplification of vitamin B12 transport system using **polymers** for oral delivery of peptides and proteins)

IT Peptides, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(amplification of vitamin B12 transport system using **polymers** for oral delivery of peptides and proteins)

IT Proteins, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(amplification of vitamin B12 transport system using **polymers** for oral delivery of peptides and proteins)

IT **Crosslinking agents**
(in amplification of vitamin B12 transport system using **polymers** for oral delivery of peptides and proteins)

IT Lymphokines and **Cytokines**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(interleukins, amplification of vitamin B12 transport system using **polymers** for oral delivery of peptides and proteins)

IT **Pharmaceutical dosage forms**
(oral, amplification of vitamin B12 transport system using **polymers** for oral delivery of peptides and proteins)

IT **9004-54-0DP**, **Dextran**, reaction products with polyaminohexane 60651-39-0P 161011-71-8P
RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(amplification of vitamin B12 transport system using **polymers** for oral delivery of peptides and proteins)

IT 68-19-9, Cyanocobalamin 68-19-9D, Vitamin B12, analogs 68-19-9D, Cyanocobalamin, reaction products with carbanilide 124-09-4, 1,6-Hexanediamine, reactions 1197-55-3, p-Aminophenylacetic acid 6478-73-5, 5,6-Dichlorobenzimidazole 6539-14-6, 2-**Iminothiolane** 9004-34-6, Cellulose, reactions **9004-54-0**, **Dextran**, reactions 9005-25-8, Starch, reactions 9005-80-5, Inulin **9007-28-7**, **Chondroitin sulfate** 9011-13-6,

Styrene-maleic anhydride **copolymer** 13139-70-3, Dimethyl adipimidate 13422-51-0, Hydroxycobalamin 13422-52-1, Aquocobalamin 13422-55-4, Methylcobalamin 13870-90-1, Adenosylcobalamin 14915-99-2 14978-39-3, Thiocyanatocobalamin 15041-07-3, Chlorocobalamin 15671-27-9, Sulfitocobalamin 20623-13-6, Nitrocobalamin 23388-02-5 24991-23-9 25104-18-1, Polylysine 25513-46-6, Poly(glutamic acid) 25569-41-9 26023-30-3, Poly[oxy(1-methyl-2-oxo-1,2-ethanediyl)] 26100-51-6, Polylactic acid 26403-50-9 27100-68-1, Divinyl ether-maleic anhydride **copolymer** 29878-26-0, Dimethyl suberimidate 36875-25-9, Dimethyl pimelimidate 38000-06-5, Polylysine 39390-27-7 40704-75-4, Poly[N-(2-hydroxypropyl)methacrylamide] 41292-65-3, 5-Hydroxybenzimidazole 41325-56-8 57683-72-4 57757-57-0, Dithio-bis(succinimidyl propionate) 68181-17-9, N-Succinimidyl-3-(2-pyridyldithio)propionate 68528-80-3, Disuccinimidyl suberate 70539-42-3 74662-58-1 81069-02-5 82436-77-9, Bis(sulfosuccinimidyl suberate) 84631-19-6 88326-63-0, Zincobinamide 112241-19-7 120556-35-6 141647-62-3 150244-18-1 158913-22-5 161011-72-9 161011-73-0 161068-76-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(amplification of vitamin B12 transport system using **polymers** for oral delivery of peptides and proteins)

IT 9034-40-6, LHRH 76712-82-8, Histrelin 112568-12-4
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(amplification of vitamin B12 transport system using **polymers** for oral delivery of peptides and proteins)

IT **9004-54-0DP**, **Dextran**, reaction products with polyaminohexane
RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(amplification of vitamin B12 transport system using **polymers** for oral delivery of peptides and proteins)

RN 9004-54-0 HCAPLUS
CN Dextran (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT **9004-54-0**, **Dextran**, reactions **9007-28-7**, **Chondroitin sulfate**
RL: RCT (Reactant); RACT (Reactant or reagent)
(amplification of vitamin B12 transport system using **polymers** for oral delivery of peptides and proteins)

RN 9004-54-0 HCAPLUS
CN Dextran (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 9007-28-7 HCAPLUS
CN Chondroitin, hydrogen sulfate (9CI) (CA INDEX NAME)

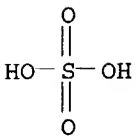
CM 1

CRN 9007-27-6
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 7664-93-9
CMF H2 O4 S



L94 ANSWER 11 OF 12 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1991:415587 HCAPLUS
DN 115:15587
ED Entered STN: 12 Jul 1991
TI Pharmaceutical preparation containing hormones or growth factors and receptors or **binding** proteins
IN Prisell, Per; Norstedt, Gunnar
PA Swed.
SO PCT Int. Appl., 15 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM A61K009-22
ICS A61K047-00; A61K037-02; A61K037-36
ICA A61L027-00
CC 63-6 (Pharmaceuticals)
Section cross-reference(s): 2
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9005522	A1	19900531	WO 1989-SE666	19891117
	W: AU, BB, BG, BR, DK, FI, HU, JP, KP, KR, LK, MC, MG, MW, NO, RO, SD, SU, US				
	RW: AT, BE, BF, BJ, CF, CG, CH, CM, DE, ES, FR, GA, GB, IT, LU, ML, MR, NL, SE, SN, TD, TG				
	AU 8945253	A1	19900612	AU 1989-45253	19891117
	AU 632074	B2	19921217		
	EP 444081	A1	19910904	EP 1989-912690	19891117
	EP 444081	B1	19990512		
	R: AT, BE, CH, DE, ES, FR, GB, IT, LI, LU, NL, SE				
	JP 05505169	T2	19930805	JP 1989-511728	19891117
	JP 2752209	B2	19980518		
	AT 179887	E	19990515	AT 1989-912690	19891117
	ES 2134187	T3	19991001	ES 1989-912690	19891117
PRAI	SE 1988-4164		19881117		
	WO 1989-SE666		19891117		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 9005522	ICM	A61K009-22
	ICS	A61K047-00; A61K037-02; A61K037-36
	ICA	A61L027-00

AB A receptor or **binding** protein for a hormone or growth factor is coupled with **hyaluronic** acid gel or other **biodegradable polymer carrier** for use as a pharmaceutical to treat excessive production of the hormone or growth factor. Addnl., a combination of the growth factor or hormone, the receptor or **binding** protein, and the **carrier** is used as a slow-release form of the growth factor or hormone. Thus, the extracellular domain of the growth hormone (GH) receptor, produced by recombinant DNA methodol., was purified, **crosslinked** to **hyaluronic** acid, and incubated with excess GH, and unbound GH was removed by centrifugation. This preparation, injected s.c., slowly released GH in a dose-dependent manner which was based on both the amount of GH and the number of GH receptors coupled

to the gel. Hypophysectomized rats treated with this preparation showed an increase in body weight

ST receptor hormone **hyaluronate** slow release; protein growth factor pharmaceutical

IT **Polymers**, biological studies
RL: BIOL (Biological study)
(**biodegradable**, pharmaceutical gel containing growth factor/hormone and receptor/**binding** protein **binding** and)

IT Corticosteroids, biological studies
RL: BIOL (Biological study)
(pharmaceutical gel containing corticosteroid-**binding** globulin and **hyaluronate** and)

IT Transcortins
RL: BIOL (Biological study)
(pharmaceutical gel containing corticosteroids and **hyaluronate** and)

IT Urethane **polymers**, biological studies
RL: BIOL (Biological study)
(pharmaceutical gel containing growth factor/hormone and receptor/**binding** protein and)

IT Animal growth regulators
Estrogens
Hormones
RL: BIOL (Biological study)
(pharmaceutical gel containing receptor/**binding** protein and **hyaluronate** and)

IT **Biodegradable** materials
(**polymers**, pharmaceutical gel containing growth factor/hormone and receptor/**binding** protein and)

IT Animal growth regulators
RL: BIOL (Biological study)
(blood platelet-derived growth factors, pharmaceutical gel containing receptor/**binding** protein and **hyaluronate** and)

IT Animal growth regulators
RL: BIOL (Biological study)
(bone morphogenetic protein, pharmaceutical gel containing receptor/**binding** protein and **hyaluronate** and)

IT Peptides, biological studies
RL: BIOL (Biological study)
(depsi-, pharmaceutical gel containing growth factor/hormone and receptor/**binding** protein and)

IT **Pharmaceutical dosage forms**
(**gels**, slow-release, **biodegradable polymer** and growth factor/hormone and receptor/**binding** protein in)

IT Polyesters, biological studies
RL: BIOL (Biological study)
(polyamide-, pharmaceutical gel containing growth factor/hormone and receptor/**binding** protein and)

IT Polyamides, biological studies
RL: BIOL (Biological study)
(polyester-, pharmaceutical gel containing growth factor/hormone and receptor/**binding** protein and)

IT Animal growth regulators
RL: BIOL (Biological study)
(transforming growth factors, pharmaceutical gel containing receptor/**binding** protein and **hyaluronate** and)

IT Lymphokines and **Cytokines**
RL: BIOL (Biological study)
(tumor necrosis factor, pharmaceutical gel containing receptor/**binding** protein and **hyaluronate** and)

IT 144-62-7D, Oxalic acid, esters, **polymers** 502-97-6D, Glycolide, **polymers** 9002-89-5, Poly(vinylalcohol) **9004-61-9**,

Hyaluronic acid 15802-18-3D, 2-Cyanoacrylic acid, alkyl esters, **polymers** 24980-41-4, Poly(ε-caprolactone) 25248-42-4, Poly[oxy(1-oxo-1,6-hexanediyl)] 25512-65-6D, Dihydropyran, derivs., **polymers** 25655-01-0 26009-03-0, Polyglycolide 26023-30-3 26023-30-3, Poly[oxy(1-methyl-2-oxo-1,2-ethanediyl)] 26063-00-3, Poly(β-hydroxybutyrate) 26161-42-2 26202-08-4, Polyglycolide 26202-08-4D, derivs. 26354-94-9, Poly(δ-valerolactone) 26680-10-4, Poly-DL-lactide 29223-92-5, Poly(p-dioxanone) 30846-39-0, Glycolide/L-lactide **copolymer** 33135-50-1, Poly-L-lactide 52305-30-3 64400-91-5 70524-20-8, Lactide/ε-caprolactone **copolymer** 75734-93-9 78644-42-5 80181-31-3 88306-53-0 129515-24-8 134309-58-3
RL: BIOL (Biological study)
(pharmaceutical gel containing growth factor/hormone and receptor/**binding** protein and)

IT 78666-19-0
RL: BIOL (Biological study)
(pharmaceutical gel containing growth factor/hormone and receptor/**binding** proteins and)

IT 9002-64-6, Parathyroid hormone 9002-72-6, Growth hormone 9007-12-9, Calcitonin 9061-61-4, Nerve growth factor 31362-50-2, Bombesin 61912-98-9, Insulin-like growth factor 62031-54-3, Fibroblast growth factor 62229-50-9, Epidermal growth factor 62683-29-8, Colony-stimulating factor 67763-96-6, Insulin-like growth factor I 67763-97-7, Insulin-like growth factor II
RL: BIOL (Biological study)
(pharmaceutical gel containing receptor/**binding** protein and **hyaluronate** and)

IT **9004-61-9**, **Hyaluronic** acid
RL: BIOL (Biological study)
(pharmaceutical gel containing growth factor/hormone and receptor/**binding** protein and)

RN 9004-61-9 HCAPLUS
CN Hyaluronic acid (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L94 ANSWER 12 OF 12 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1981:456756 HCAPLUS
DN 95:56756
ED Entered STN: 12 May 1984
TI Periodic acid-oxidized soluble **polysaccharides** as polyfunctional **links** for **covalent binding** of enzymes. 1. Preparation of **polysaccharides** and matrixes for their **binding**
AU Reiner, Roland H.; Batz, Hans Georg
CS Battelle-Inst. e. V., Frankfurt/Main, 6000/90, Fed. Rep. Ger.
SO Makromolekulare Chemie (1981), 182(6), 1641-8
CODEN: MACEAK; ISSN: 0025-116X
DT Journal
LA English
CC 6-4 (General Biochemistry)
Section cross-reference(s): 7, 9
AB Soluble hydrophilic **polyaldehydes** can be used an **linking** and **crosslinking** reagents for the modification and immobilization of proteins. An **imine bond** (or possibly an α-hydroxyamino **bond**) between **NH2** functions of proteins or matrixes and the **aldehyde** functions of the soluble **polymer** is formed under mild conditions. The **polyaldehydes** used were HIO4-oxidized soluble **polysaccharides** of different degrees of oxidation, and the **NH2** matrixes were Enzacryl AA and Enzacryl AH (for reference purposes also aminohexylcellulose), macroporous **copolymer** of glycidyl methacrylate reacted with NH3,

and nylon 6 and Estapor lattices both with surface amino groups. **Dextrans** and Zulkowski starch were readily oxidized with HIO4, the degree of oxidation being determined by means of a modified photometric **aldehyde** determination method. As regards the reaction of the matrixes with the polyoxidized **polysaccharides** (glycosidation of the matrix), it was found that 20 h incubation at 20° and phosphate buffer pH = 6 furnished good results. Relatively large quantities of **polysaccharide** were used for incubation, in order to achieve a high degree of glycosidation. For a closer anal. of matrixes, several methods for the determination of the **NH2** concns. on matrixes were examined; the reaction with **pentafluorobenzaldehyde** in aqueous phase followed by fluoride-anal. furnished well reproducible results.

ST **dextran** oxidn coupling matrix; starch oxidn coupling matrix; protein immobilization **polysaccharide** matrix; enzyme immobilization **polysaccharide** matrix

IT Amino group
(determination of, in **polymers**, **pentafluorobenzaldehyde** for)

IT Enzymes
Proteins
RL: BIOL (Biological study)
(immobilization of, periodate-oxidized **polysaccharide** coupling to matrixes for)

IT **Polysaccharides**, compounds
RL: BIOL (Biological study)
(oxidized, periodate-, coupling of, to matrixes for protein immobilization)

IT **9004-54-0D**, periodate-oxidized 9005-25-8D, periodate-oxidized
RL: RCT (Reactant); RACT (Reactant or reagent)
(coupling of, to matrixes for protein immobilization)

IT 107-22-2D, reaction products with nylon 6 124-09-4D, reaction products with nylon 6 or Estapor 25038-54-4D, reaction products with hexamethylenediamine or oxalyl dihydrazide 31743-77-8D, reaction products with ammonia 37265-17-1 55965-12-3 68894-54-2D, reaction products with hexamethylenediamine
RL: RCT (Reactant); RACT (Reactant or reagent)
(coupling of, to periodate-oxidized **polysaccharides** for protein immobilization)

IT 653-37-2
RL: BIOL (Biological study)
(in amino group determination in **polymers**)

IT **9004-54-0D**, periodate-oxidized
RL: RCT (Reactant); RACT (Reactant or reagent)
(coupling of, to matrixes for protein immobilization)

RN 9004-54-0 HCAPLUS

CN Dextran (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

=> => fil reg
FILE 'REGISTRY' ENTERED AT 08:07:01 ON 07 OCT 2004
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PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

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STRUCTURE FILE UPDATES: 5 OCT 2004 HIGHEST RN 757166-57-7
DICTIONARY FILE UPDATES: 5 OCT 2004 HIGHEST RN 757166-57-7

TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

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http://www.cas.org/ONLINE/DBSS/registryss.html

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L95 ANSWER 1 OF 8 REGISTRY COPYRIGHT 2004 ACS on STN
RN **24967-94-0** REGISTRY
CN Dermatan, hydrogen sulfate (ester) (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Chondroitinsulfuric acids, type B (8CI)
OTHER NAMES:
CN β-Heparin
CN Chondroitin sulfate B
CN Chondroitin sulfate type B
CN Chondroitinsulfuric acid B
CN Chondroitinsulfuric acid type B
CN Chondroitinsulfuric acid, type B
CN Dermatan 4-sulfate
CN Dermatan hydrogen sulfate
CN **Dermatan sulfate**
CN Dermatan sulphate
CN Desmin 370
CN DS 435
CN DS 435 (polysaccharide)
CN MF 701
CN MF 701 (polysaccharide)
DR 9045-59-4, 9083-19-6, 11120-35-7, 11129-22-9, 11129-23-0, 177697-01-7, 42616-56-8
MF **H2 O4 S . x Unspecified**
CI COM
PCT Manual registration
LC STN Files: ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAPLUS, CBNB, CHEMCATS, CHEMLIST, CIN, CSCHEM, DDFU, DRUGU, EMBASE, IFICDB, IFIPAT, IFIUDB, IMSDRUGNEWS, IMSPATENTS, IMSRESEARCH, IPA, MEDLINE, MRCK*, PHAR, PROMT, RTECS*, TOXCENTER, USPAT2, USPATFULL
(*File contains numerically searchable property data)
Other Sources: EINECS**
(**Enter CHEMLIST File for up-to-date regulatory information)
DT.CA CAplus document type: Book; Conference; Dissertation; Journal; Patent; Report
RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)
RLD.P Roles for non-specific derivatives from patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)
RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)
RLD.NP Roles for non-specific derivatives from non-patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); OCCU

(Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)

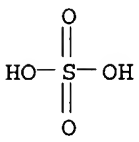
CM 1

CRN 75634-40-1
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 7664-93-9
CMF H2 O4 S



3418 REFERENCES IN FILE CA (1907 TO DATE)
205 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
3422 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 141:236613

REFERENCE 2: 141:230646

REFERENCE 3: 141:230304

REFERENCE 4: 141:226404

REFERENCE 5: 141:212825

REFERENCE 6: 141:207470

REFERENCE 7: 141:204801

REFERENCE 8: 141:202144

REFERENCE 9: 141:195321

REFERENCE 10: 141:179722

L95 ANSWER 2 OF 8 REGISTRY COPYRIGHT 2004 ACS on STN
RN **9056-36-4** REGISTRY
CN Keratosulfate (9CI) (CA INDEX NAME)
OTHER NAMES:
CN Glycosaminoglycans, keratan sulfate-contg. mucopolysaccharides
CN Keratan polysulfate
CN Keratan sulfate-1
CN Keratan sulphate
CN **Keratan, sulfate**
CN Mucokeratan, hydrogen sulfate
DR 12698-62-3, 9047-16-9, 9051-27-8, 98113-02-1
MF Unspecified
CI PMS, COM, MAN
PCT Manual registration
LC STN Files: AGRICOLA, ANABSTR, BIOBUSINESS, BIOSIS, BIOTECHNO, CA,

CANCERLIT, CAPLUS, CHEMCATS, CSCHEM, DDFU, DRUGU, EMBASE, MEDLINE, TOXCENTER, USPAT2, USPATFULL
DT.CA CAplus document type: Book; Conference; Dissertation; Journal; Patent
RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)
RLD.P Roles for non-specific derivatives from patents: ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)
RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)
RLD.NP Roles for non-specific derivatives from non-patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
1547 REFERENCES IN FILE CA (1907 TO DATE)
89 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1548 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 141:236613

REFERENCE 2: 141:230304

REFERENCE 3: 141:212825

REFERENCE 4: 141:207470

REFERENCE 5: 141:195321

REFERENCE 6: 141:105371

REFERENCE 7: 141:99695

REFERENCE 8: 141:76829

REFERENCE 9: 141:59813

REFERENCE 10: 141:59793

L95 ANSWER 3 OF 8 REGISTRY COPYRIGHT 2004 ACS on STN
RN **9042-14-2** REGISTRY
CN Dextran, hydrogen sulfate (9CI) (CA INDEX NAME)
OTHER NAMES:
CN Dextran polysulfate
CN **Dextran sulfate**
CN Dextran sulfate 500
CN Dextran sulfate 5000
CN Dextran sulfuric acid
CN Dextran sulphate
CN MDS-Kowa
CN NSC 620255
CN PF 51
CN PF 51 (carbohydrate)
CN Polydextran sulfate
CN Polyglucin, sulfate
CN Sulfopolyglucin
CN T 500
DR 9057-27-6, 9063-02-9, 50935-34-7, 37271-05-9, 73075-68-0, 191288-77-4
MF **H2 O4 S . x Unspecified**

CI COM
PCT Manual registration, Polyother, Polyother only
LC STN Files: ADISINSIGHT, AGRICOLA, ANABSTR, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAPLUS, CBNB, CEN, CHEMCATS, CHEMLIST, CIN, CSCHEM, DDFU, DRUGU, EMBASE, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, NIOSHTIC, PIRA, PROMT, RTECS*, TOXCENTER, USAN, USPAT2, USPATFULL, VTB
(*File contains numerically searchable property data)
Other Sources: NDSL**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)
DT.CA CAplus document type: Conference; Dissertation; Journal; Patent; Report
RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)
RLD.P Roles for non-specific derivatives from patents: ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PROC (Process); RACT (Reactant or reagent); USES (Uses)
RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)
RLD.NP Roles for non-specific derivatives from non-patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); MSC (Miscellaneous); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)

CM 1

CRN 9004-54-0
CMF Unspecified
CCI PMS, MAN

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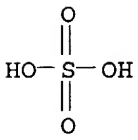
CM 2

CRN 7664-93-9
CMF H2 O4 S



2829 REFERENCES IN FILE CA (1907 TO DATE)
175 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
2832 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 141:248617

REFERENCE 2: 141:227689

REFERENCE 3: 141:219499

REFERENCE 4: 141:218988

REFERENCE 5: 141:218935

REFERENCE 6: 141:212745

REFERENCE 7: 141:185077

REFERENCE 8: 141:179722

REFERENCE 9: 141:162180

REFERENCE 10: 141:145685

L95 ANSWER 4 OF 8 REGISTRY COPYRIGHT 2004 ACS on STN
RN **9007-28-7** REGISTRY
CN Chondroitin, hydrogen sulfate (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Chondroitinsulfuric acids (8CI)
OTHER NAMES:
CN Chondroitin polysulfate
CN **Chondroitin sulfate**
CN Chondroitin sulphate
CN Chondroitinsulfuric acid
CN Chonsurid
CN Cosamin DS
CN Uracyst S 400
DR 9046-20-2, 9062-29-7, 11120-14-2, 56480-79-6
MF **H2 O4 S . x Unspecified**
CI COM
PCT Manual registration
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMLIST, CIN, CSCHEM, DDFU, DRUGU, EMBASE, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, NAPRALERT, NIOSHTIC, PHAR, PROMT, RTECS*, TOXCENTER, USPAT2, USPATFULL
(*File contains numerically searchable property data)
Other Sources: EINECS**, NDSL**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)
DT.CA CAplus document type: Conference; Dissertation; Journal; Patent; Report
RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)
RLD.P Roles for non-specific derivatives from patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)
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RLD.NP Roles for non-specific derivatives from non-patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)

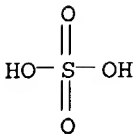
CM 1

CRN 9007-27-6
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 7664-93-9
CMF H2 O4 S



5828 REFERENCES IN FILE CA (1907 TO DATE)
350 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
5839 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 141:248693

REFERENCE 2: 141:242661

REFERENCE 3: 141:241159

REFERENCE 4: 141:239092

REFERENCE 5: 141:230772

REFERENCE 6: 141:230741

REFERENCE 7: 141:230304

REFERENCE 8: 141:226404

REFERENCE 9: 141:224466

REFERENCE 10: 141:221054

L95 ANSWER 5 OF 8 REGISTRY COPYRIGHT 2004 ACS on STN
RN **9005-49-6** REGISTRY
CN **Heparin (8CI, 9CI)** (CA INDEX NAME)
OTHER NAMES:
CN α-Heparin
CN Ardeparin
CN Arteven
CN Bemiparin
CN Certoparin
CN Clevarin
CN Clivarin
CN Clivarine
CN CY 216
CN CY 222
CN Dalteparin
CN Fluxum
CN FR 860
CN Fragmin A
CN Fragmin B
CN Fraxiparin
CN Hapacarin
CN Heparin subcutan
CN **Heparin sulfate**
CN Heparinic acid
CN KB 101
CN Leparan
CN Livaracine
CN Mono-embolex
CN Multiparin
CN Nadroparin
CN Novoheparin

CN OP 386
CN OP 622
CN Pabyrn
CN Parnaparin
CN Parvoparin
CN Reviparin
CN Sandoparin
CN Sublingula
CN Tinzaparin
CN Vetren
CN Vitrum AB
DR 9075-96-1, 11078-24-3, 11129-39-8, 104521-37-1, 37324-73-5, 91449-79-5
MF Unspecified
CI PMS, COM, MAN
PCT Manual registration, Polyester, Polyester formed
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMLIST, CIN, CSCHEM, DDFU, DIOGENES, DRUGU, EMBASE, HSDB*, IFICDB, IFIPAT, IFIUDB, IMSCOSEARCH, IMSDRUGNEWS, IMSPATENTS, IMSRESEARCH, IPA, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, NIOSHTIC, PHAR, PIRA, PROMT, PS, RTECS*, TOXCENTER, USAN, USPAT2, USPATFULL
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, WHO
(**Enter CHEMLIST File for up-to-date regulatory information)
DT.CA CAplus document type: Book; Conference; Dissertation; Journal; Patent; Report
RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)
RLD.P Roles for non-specific derivatives from patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)
RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)
RLD.NP Roles for non-specific derivatives from non-patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
23456 REFERENCES IN FILE CA (1907 TO DATE)
1911 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
23500 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 141:248841

REFERENCE 2: 141:245115

REFERENCE 3: 141:241913

REFERENCE 4: 141:241719

REFERENCE 5: 141:241154

REFERENCE 6: 141:241022

REFERENCE 7: 141:236613

REFERENCE 8: 141:236205

REFERENCE 9: 141:236104

REFERENCE 10: 141:236099

L95 ANSWER 6 OF 8 REGISTRY COPYRIGHT 2004 ACS on STN
RN **9005-32-7** REGISTRY
CN **Alginic acid (8CI, 9CI)** (CA INDEX NAME)
OTHER NAMES:
CN A 2830-9
CN Acid Algin G 2
CN Alginate 8
CN Alginate LV
CN Cecalgum S 500
CN Duckacid X 2787
CN E 400
CN Grindsted PH 060
CN Kelacid
CN Kimika Acid G
CN Lamitex LV
CN Landalgine
CN Norgine
CN Protanal LF
CN Satialgine H 8
CN Snow acid algin G
CN Verdyol Super
DR 545434-56-8, 210888-24-7
MF Unspecified
CI PMS, COM, MAN
PCT Manual registration, Polyester, Polyester formed
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMLIST, CHEMSAFE, CIN, CSCHEM, DDFU, DIOGENES, DRUGU, EMBASE, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, NIOSHTIC, PIRA, PROMT, RTECS*, TOXCENTER, USAN, USPAT2, USPATFULL
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)
DT.CA CAplus document type: Book; Conference; Dissertation; Journal; Patent; Report
RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)
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RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)
RLD.NP Roles for non-specific derivatives from non-patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
8263 REFERENCES IN FILE CA (1907 TO DATE)
1560 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
8282 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 141:248807

REFERENCE 2: 141:248619

REFERENCE 3: 141:248345

REFERENCE 4: 141:247125

REFERENCE 5: 141:246452

REFERENCE 6: 141:242757

REFERENCE 7: 141:242597

REFERENCE 8: 141:242364

REFERENCE 9: 141:242141

REFERENCE 10: 141:239325

L95 ANSWER 7 OF 8 REGISTRY COPYRIGHT 2004 ACS on STN
RN **9004-61-9** REGISTRY
CN **Hyaluronic acid (8CI, 9CI)** (CA INDEX NAME)
OTHER NAMES:
CN ACP
CN ACP (polysaccharide)
CN ACP gel
CN Durolane
CN Genzyme 9983
CN HA 9
CN Hy 20
CN Hyalofill
CN Hyaluronan
CN Hylan G-F 20
CN Hylartil
CN Luronit
CN Mucoitin
CN Sepracoat
CN Sofast
CN Synvisc
DR 165324-65-2, 9039-38-7, 37243-73-5, 29382-75-0
MF Unspecified
CI PMS, COM, MAN
PCT Manual registration, Polyester, Polyester formed
LC STN Files: ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMLIST, CIN, CSCHEM, DDFU, DIOGENES, DRUGU, EMBASE, IFICDB, IFIPAT, IFIUDB, IMSCOSEARCH, IMSDRUGNEWS, IMSRESEARCH, IPA, MEDLINE, MRCK*, NAPRALERT, NIOSHTIC, PHAR, PIRA, PROMT, TOXCENTER, USAN, USPAT2, USPATFULL
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)
DT.CA CAplus document type: Book; Conference; Dissertation; Journal; Patent; Report
RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study); CMBI (Combinatorial study); FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)
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RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)
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11292 REFERENCES IN FILE CA (1907 TO DATE)
867 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
11316 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 141:248807

REFERENCE 2: 141:248778

REFERENCE 3: 141:248725

REFERENCE 4: 141:248693

REFERENCE 5: 141:245105

REFERENCE 6: 141:244128

REFERENCE 7: 141:241786

REFERENCE 8: 141:240515

REFERENCE 9: 141:239092

REFERENCE 10: 141:238599

L95 ANSWER 8 OF 8 REGISTRY COPYRIGHT 2004 ACS on STN
RN **9004-54-0** REGISTRY
CN **Dextran (9CI)** (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Dextrans (8CI)
OTHER NAMES:
CN α-Dextran
CN CDC-H
CN DEX 500
CN Dextran 1.5
CN Dextran 10
CN Dextran 1000
CN Dextran 110
CN Dextran 15
CN Dextran 150
CN Dextran 2000
CN Dextran 250
CN Dextran 3000
CN Dextran 40
CN Dextran 45
CN Dextran 500
CN Dextran 60
CN Dextran 70
CN Dextran 75
CN Dextran B 512
CN Dextran B1355
CN Dextran D 10
CN Dextran PL 1S
CN Dextran PT 25

CN Dextran PVD
CN Dextran RMI
CN Dextran T 10
CN Dextran T 110
CN Dextran T 150
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CN Eudextran
CN Expandex
CN Gentran
CN Hemodex
CN Hyscon
CN Hyskon
CN Infucoll
CN Intrader
CN Intradex
CN LMD
CN LMWD
CN Longasteril 70
CN LU 122
CN LVD
CN Macrodex
ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT - Use FCN, FIDE, or ALL for DISPLAY
DR 12626-85-6, 9013-80-3, 9044-66-0, 11104-36-2, 11121-03-2, 37224-17-2, 86280-85-5
MF Unspecified
CI PMS, COM, MAN
PCT Manual registration, Polyother, Polyother only
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BIOBUSINESS, BIOSIS, CA, CABA, CANCERLIT, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, CSNB, DDFU, DETHERM*, DIOGENES, DRUGU, EMBASE, IFICDB, IFIPAT, IFIUDB, IMSCOSEARCH, IPA, MEDLINE, MRCK*, MSDS-OHS, NIOSHTIC, PHAR, PIRA, PROMT, RTECS*, TOXCENTER, TULSA, USAN, USPAT2, USPATFULL, VTB
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**, WHO
(**Enter CHEMLIST File for up-to-date regulatory information)
DT.CA CAplus document type: Book; Conference; Dissertation; Journal; Patent; Preprint; Report
RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study); CMBI (Combinatorial study); FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)
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RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)
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*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

14582 REFERENCES IN FILE CA (1907 TO DATE)
2484 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
14621 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 141:248660

REFERENCE 2: 141:248587

REFERENCE 3: 141:248556

REFERENCE 4: 141:242235

REFERENCE 5: 141:241204

REFERENCE 6: 141:239082

REFERENCE 7: 141:230772

REFERENCE 8: 141:230737

REFERENCE 9: 141:230736

REFERENCE 10: 141:230521

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FILE 'WPIX' ENTERED AT 09:19:05 ON 07 OCT 2004
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MOST RECENT DERWENT UPDATE: 200464 <200464/DW>
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GUIDES, PLEASE VISIT:
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HIT STRUCTURES WITHIN THE BIBLIOGRAPHIC DOCUMENT <<<

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L158 ANSWER 1 OF 12 WPIX COPYRIGHT 2004 THE THOMSON CORP on STN
AN 2004-374249 [35] WPIX
CR 1999-105769 [09]; 2002-129380 [17]; 2003-512133 [48]
DNC C2004-140754
TI Composition, useful to induce or conduct cartilage growth in vivo,
comprises a biodegradable **carrier** and a therapeutic agent e.g.,

a hormone or growth factor.
DC A96 B04 D16
IN **LIU, L S; SPIRO, R C; THOMPSON, A Y**
PA (LIUL-I) LIU L S; (SPIR-I) SPIRO R C; (THOM-I) THOMPSON A Y
CYC 1
PI US 2004077592 A1 20040422 (200435)* 8 A61K031-727 <--
ADT US 2004077592 A1 **CIP of US 1997-887994 19970703, Cont of US 1998-110381 19980701, Cont of US 2001-954855 20010917, US 2003-679110 20031003**
FDT US 2004077592 A1 Cont of US 6303585, Cont of US 6683064
PRAI **US 1998-110381 19980701; US 1997-887994 19970703; US 2001-954855 20010917; US 2003-679110 20031003**
IC ICM **A61K031-727**
ICS **A61K031-728; A61K031-737**
AB US2004077592 A UPAB: 20040603
NOVELTY - Therapeutic composition (I) comprising a biodegradable **carrier** (II) (comprising a first polysaccharide (A) **cross -linked** to a second polysaccharide (B)) and a therapeutic agent (III), is new.

DETAILED DESCRIPTION - Therapeutic composition (I) comprises a biodegradable **carrier** (II), comprising a first polysaccharide (A) **cross-linked** to a second polysaccharide (B) (the polysaccharides are hyaluronic acid, dextran, dextran sulfate, chondroitin sulfate, dermatan sulfate, keratan sulfate, heparin, heparan sulfate or alginate) and (A) and (B) are covalently **cross-linked** to each other through **imine** bonds between amino groups on (B) and **aldehyde** groups from oxidized sugar rings on (A)), and a therapeutic agent (a growth factor, cytokine, hormone, DNA construct, and autologous, allogenic or modified cells) (III). INDEPENDENT CLAIMS are also included for:

(a) Therapeutic composition (I) for supporting cartilage repair comprising a biodegradable **carrier** (II), comprising a first polysaccharide (A) **cross-linked** to a second polysaccharide (B) (where the polysaccharides are hyaluronic acid, dextran, dextran sulfate, chondroitin sulfate, dermatan sulfate, keratan sulfate, heparin, heparan sulfate or alginate) and (A) and (B) are covalently **cross-linked** to each other through **oxime** bonds between amino groups on (B) and **aldehyde** groups from oxidized sugar rings on (A)), therapeutic agent (a growth factor, cytokine, hormone, DNA construct, and autologous, allogenic or modified cells) (III) supported by the **carrier** and seeding a population of cell on or into the **carrier**;

(b) Preparation of a biodegradable device for cartilage repair comprising preparing a **carrier** (II) comprising reacting (A) having **aldehyde** groups with (B) under conditions where the **aldehyde** groups covalently react to **cross link** with (B) and (where the polysaccharides are hyaluronic acid, dextran, dextran sulfate, chondroitin sulfate, dermatan sulfate, keratan sulfate, heparin, heparan sulfate or alginate) introducing (III) (preferably growth factors, cytokines, hormones, DNA constructs, and autologous, allogenic or modified cells) and seeding a population of cell into or onto the **carrier**; and

(c) Supporting cartilage repair in vivo comprising preparing a biodegradable **carrier** by reacting (A) derivative having **aldehyde** groups with (B) under conditions where the **aldehyde** groups covalently react to **cross link** with (B) and (where the polysaccharides are hyaluronic acid, dextran, dextran sulfate, chondroitin sulfate, dermatan sulfate, keratan sulfate, heparin, heparan sulfate or alginate) introducing (III) (preferably growth factors, cytokines, hormones, DNA constructs and autologous, allogenic or modified cells), seeding population of cell into or onto the **carrier** and implanting the **carrier** at a site of desired

cartilage repair.
ACTIVITY - Osteopathic.
(I) were assessed for ability to induce cartilage growth in male sprague dawley rats. The results showed that parietal bone thickness was 523 plus or minus 81 mu m for b fibroblast growth factor (1 mg/ml) in (amine/**aldehyde**) hyaluronate.
MECHANISM OF ACTION - None given in the source material.
USE - (I) are useful to induce or conduct cartilage growth in vivo at a site of desired cartilage growth (claimed).
Dwg.0/2

FS CPI
FA AB; DCN
MC CPI: A03-A01; **A11-C02**; **A12-V01**; **B04-C02**;
B04-C02C; B04-C03; B04-F01; B04-H01; B04-H06; B04-J01; B14-N01;
D05-A01A1; D05-H08; D05-H12E
TECH UPTX: 20040603
TECHNOLOGY FOCUS - PHARMACEUTICALS - Preferred Composition: (A) and (B) are same (preferably hyaluronate) or different ((A) is hyaluronate and (B) is chondroitin sulfate). (A) contains an excess of **aldehyde** groups such that free **aldehyde** groups remain subsequent to **cross-linking** to (B). (II) is gel-like form or sponge-like form. (III) (preferably chondrogenic agent) is covalently bonded to (II) or entrapped within (II). The seed cells are (preferably chondrocytes) cultured in the **carrier.** In preparation of biodegradable device, introducing the therapeutic agent including mixing it with (A) or (B) before reacting the polysaccharides in order to entrap the therapeutic agents within the **carrier**, introducing the therapeutic agent includes mixing it with **carrier** in order to entrap within the **carrier** or introducing the therapeutic agent includes reacting it with (A) or (B) before reacting the polysaccharides. (III) is chondrogenic agent.
ABEX UPTX: 20040603
ADMINISTRATION - Administration of (I) is by injection. No dosage given.

L158 ANSWER 2 OF 12 WPIX COPYRIGHT 2004 THE THOMSON CORP on STN
AN 2003-512133 [48] WPIX
CR 1999-105769 [09]; 2002-129380 [17]; 2004-374249 [35]
DNC C2003-137060
TI Therapeutic composition for supporting cartilage repair and for inducing or conducting cartilage growth in vivo, has a biodegradable **carrier**, a therapeutic agent and optionally cells seeded on or into the **carrier.**
DC A96 B04 B05 D16
IN **LIU, L S**; **SPIRO, R C**; **THOMPSON, A Y**
PA (LIUL-I) LIU L S; (SPIR-I) SPIRO R C; (THOM-I) THOMPSON A Y; (DEPU-N) DEPUY ACROMED INC
CYC 1
PI US 2003012765 A1 20030116 (200348)* 8 A61K048-00 <--
US 6683064 B2 20040127 (200408) A61K031-715 <--
ADT US 2003012765 A1 **CIP of US 1997-887994 19970703, Cont of US 1998-110381 19980701, US 2001-954855 20010917**; US 6683064 B2 **CIP of US 1997-887994 19970703, Cont of US 1998-110381 19980701, US 2001-954855 20010917**
FDT US 2003012765 A1 Cont of US 6303585; US 6683064 B2 Cont of US 6303585
PRAI **US 1998-110381 19980701; US 1997-887994 19970703; US 2001-954855 20010917**
IC ICM **A61K031-715**; **A61K048-00**
ICS **A61K031-70**; **A61K031-728**; **A61K031-737**; **A61K038-00**; **A61K038-19**; **A61K038-22**; **C08B037-00**
AB US2003012765 A UPAB: 20040603
NOVELTY - A therapeutic composition (I) comprises a biodegradable **carrier** having first polysaccharide (P1) **cross-**

linked to second polysaccharide (P2), and are covalently **cross-linked** to each other through **imine** bonds between amino groups on P2 and **aldehyde** groups from oxidized sugar rings on P1, and a therapeutic agent which is supported by a **carrier**, and optionally a population of cells seeded on or into the **carrier.**

DETAILED DESCRIPTION - (I) comprises: a biodegradable **carrier** comprising a first polysaccharide **cross-linked** to a second polysaccharide, where the first and second polysaccharide is each a member of hyaluronic acid, dextran, dextran sulfate, chondroitin sulfate, dermatan sulfate, keratan sulfate, heparin, heparan sulfate and alginate, and are covalently **cross-linked** to each other through **imine** bonds between amino groups on the second polysaccharide and **aldehyde** groups from oxidized sugar rings on the first polysaccharide; a therapeutic agent such as growth factors, cytokines, hormones, DNA constructs, and autologous, allogenic or modified cells, is supported by the **carrier**; and optionally a population of cells seeded on or into the **carrier.**

An INDEPENDENT CLAIM is also included for preparing a biodegradable device for cartilage repair, by preparing a **carrier** by reacting a first polysaccharide derivative having **aldehyde** groups with a second polysaccharide under conditions, where the **aldehyde** groups covalently react to **cross link** with the second polysaccharide to form the **carrier**, introducing a therapeutic agent into or onto the **carrier**, seeding a population of cell on or into the **carrier**, and optionally implanting the **carrier** at a site of desired cartilage repair.

USE - (I) is useful for supporting cartilage repair, and for inducing or conducting cartilage growth in vivo, by administering or implanting (I) at a site of desired cartilage growth (claimed).

ADVANTAGE - The **carrier** is biocompatible while maintaining a prolonged biodegradation rate due to the **cross-linking** , provides controlled release of the therapeutic agent, and has the flexibility of formulation in gel-like or sponge-like form to accommodate desired therapeutic intervention.

Dwg.0/2

FS CPI

FA AB; DCN

MC CPI: A03-A01; A09-A07; **A11-C02**; **A12-V01**; **A12-V02**; **B04-C02**; B04-C03; B04-E01; B04-F01; B07-A02B; B11-C04A; B14-N17C; D05-H08; D05-H12; D05-H13

TECH UPTX: 20030729

TECHNOLOGY FOCUS - BIOTECHNOLOGY - Preferred Composition: In (I), the first polysaccharide is same or different as the second polysaccharide, and both are hyaluronate or the first polysaccharide is hyaluronate and the second polysaccharide is chondroitin sulfate. The first polysaccharide contains an excess of **aldehyde** groups such that free **aldehyde** groups remain subsequent to **cross-linking** to the second polysaccharide. The **carrier** has a gel-like or sponge-like form. The therapeutic agent is covalently bonded to the **carrier** or entrapped within the **carrier**, and is preferably a chondrogenic agent. The seed cells are chondrocytes. Preferred Method: The therapeutic agent is introduced into the **carrier**, by mixing the therapeutic agent with the first polysaccharide derivative or second polysaccharide derivative before reacting the first polysaccharide derivative with the second polysaccharide derivative, such that the reaction entraps the therapeutic agent within the **carrier**; or mixing the therapeutic agent with the **carrier**; or reacting the therapeutic agent with the first polysaccharide derivative or second polysaccharide derivative before reacting them. The seeded cells such as chondrocytes are cultured in the **carrier.**

ABEX UPTX: 20030729

EXAMPLE - Preparation of HA-NH2/HA-pAld **carrier** having a therapeutic agent immobilized, was as follows: 0.2 g of HA-NH2 and 0.4 g of HA-pAld were dissolved in 50 ml of deionized water separately. Each of the solutions contained 100 micromoles of active groups. The two solutions were mixed, and a gel was formed after 20 minutes. The gel was stable in water at a pH range of 0.1 M HCl to 0.1 M NaOH. Albumin, bovine-fluorescein isothiocyanate (FITC-BSA) was chosen as a model for therapeutic proteins. 10 mg of FITC-BSA in 2 ml of deionized water was added to 23 ml of Ha-pAld solution. The solution was incubated, and then mixed with 25 ml of HA-NH2 solution followed by incubation. The gel thus formed was incubated. The release of FITC-BSA in the incubation medium was determined by measuring the absorbancy at 495 nm. About 12% of the FITC-BSA released from the **carrier** in the first two hours, after that time no significant amount of protein could be found, this indicated that the remaining protein was covalently immobilized in the gel.

L158 ANSWER 3 OF 12 WPIX COPYRIGHT 2004 THE THOMSON CORP on STN
AN 2002-463394 [49] WPIX
DNC C2002-131777
TI Matrix useful to support repair of tissue e.g. bone comprises mineralized collagen covalently **crosslinked** to exogenous polysaccharide.
DC B04 D22
IN **LIU, L S; SPIRO, R C**
PA (ORQU-N) ORQUEST INC; (DEPU-N) DEPUY ACROMED INC
CYC 98
PI WO 2002036147 A1 20020510 (200249)* EN 31 A61K038-16 <--
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PH PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
AU 2002011850 A 20020515 (200258) A61K038-16 <--
EP 1337266 A1 20030827 (200357) EN A61K038-16 <--
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR
JP 2004512145 W 20040422 (200428) 49 A61L027-00
NZ 525435 A 20040625 (200445) A61K038-16 <--
ADT WO 2002036147 A1 WO 2001-US42477 20011005; AU 2002011850 A AU 2002-11850 20011005; EP 1337266 A1 EP 2001-979938 20011005, WO 2001-US42477 20011005; JP 2004512145 W WO 2001-US42477 20011005, JP 2002-538958 20011005; NZ 525435 A NZ 2001-525435 20011005, WO 2001-US42477 20011005
FDT AU 2002011850 A Based on WO 2002036147; EP 1337266 A1 Based on WO 2002036147; JP 2004512145 W Based on WO 2002036147; NZ 525435 A Based on WO 2002036147
PRAI US 2000-703438 20001031
IC ICM **A61K038-16**; A61L027-00
ICS **A61K009-00**; **A61K009-14**; **A61K035-14**; **A61K038-17**; **A61K038-18**
AB WO 200236147 A UPAB: 20020802
NOVELTY - Matrix comprises mineralized collagen covalently **crosslinked** to an exogenous polysaccharide. The polysaccharide is **crosslinked** to the collagen through oxidized sugar rings on the polysaccharide, which form covalent linkages to the mineralized collagen.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

(1) Preparing the matrix which comprises oxidizing an exogenous polysaccharide to form a modified exogenous polysaccharide having **aldehyde** groups and reacting the modified exogenous polysaccharide with mineralized collagen where the **aldehyde** groups covalently react to **crosslink** with mineralized collagen; and

(2) growing bone or cartilage tissue in vivo which comprises administering at the site of desired bone or cartilage growth an exogenous

polysaccharide modified to have **aldehyde** groups, mineralized collagen and optionally a growth factor to form a matrix of the site to support the growth of bone or cartilage.

USE - Used to support the repair of tissue such as bone, cartilage or soft tissue and for conducting in vivo growth of bone and cartilage tissue (claimed).

ADVANTAGE - The matrix has comparable growth factor binding ability to **crosslink** mineralized collagen and improved osteoconductivity, and has slower growth factor release kinetics.

Dwg.0/1

FS CPI

FA AB; DCN

MC CPI: **B04-C02**; B04-H02; B04-H04; B04-H06; B04-N02; B11-C04A; B14-N01; B14-N17B; D09-C01D

TECH UPTX: 20020802

TECHNOLOGY FOCUS - BIOLOGY - Preferred Process: The matrix preparation also involves adding a growth factor to the matrix and adding fibrinogen and thrombin to form fibrin in the matrix. The oxidizing step involves treating the polysaccharide with periodate. The repeat units (1-50, preferably 1-5)% in the polysaccharide are oxidized to contain **aldehyde** groups. The matrix is formed by freezing and lyophilization or by wet laying and air-drying.

Preferred Matrix: The growth factor is selected from members of TGF-beta superfamily, members of BMP family, the growth differentiation factors (GDF's), ADMP-1, members of the fibroblast growth factor family, members of the hedgehog family of proteins, members of the insulin-like growth factor (IGF) family, members of the platelet-derived growth factor (PDGF) family, members of the interleukin (IL) family and members of the colony-stimulating factor (CSF) family (preferably bone morphogenetic protein (BMP)).

The polysaccharide comprises hyaluronic acid, chondroitin sulfate, dermantan sulfate, keratan sulfate, heparan, heparan sulfate, dextran, dextran sulfate or alginate (preferably hyaluronic acid).

The collagen is a Type I or Type II collagen. The mineralized collagen and the polysaccharide used to form the matrix are used in a ratio of 99:1-1:99 (preferably 9:1 to 1:9) by weight. The matrix also comprises fibrin.

ABEX UPTX: 20020802

EXAMPLE - Mineralized Type I collagen and polysaccharide-**polyaldehyde** were prepared by the method disclosed in U.S.Patent Number 5231169, and U.S.Patent Number 5866165, respectively. Mineralized semed

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collagen (63 mg/ml) was blended with a hyaluronate-**polyaldehyde** solution (7 mg/ml) at the equal volume ratio. Sodium cyanoborohydride was added to the mixture to the final concentration of 10 mM. The mixture was then blended 3 times at low speed for 10 seconds. The reaction was continued carrying on by pouring the slurry into a heavy-wall bottle incorporated with a light-filling polypropylene screw cap. The bottle was rotated at the speed of 100 rotes/min at ambient temperature in dark for 24 hours. The slurry was then molded and lyophilized. The procedure was followed to form series of matrices from mCOL with other oxidized polysaccharides, which gave implantable matrices (A) of **imine** -linked mineralized collagen and polysaccharide.

FRCs were prepared from a 19 day old fetus and expanded, seeded into (A) and cultured under standard condition for 4 weeks. Cultures were then evaluated for cell growth and the express of alkaline phosphatase activity (ALP). Results showed that RFCs seeded on the matrix grew continually and the cell number was increased by a fold at day 28, compared to day 1. The expression of ALP, a marker for bone formation, also increased with time and reached the highest value at day 21 indicating the utility for bone formation of the mCOL/HA matrix to guide the seed FRC differentiation.

L158 ANSWER 4 OF 12 WPIX COPYRIGHT 2004 THE THOMSON CORP on STN

AN **2002-425672** [45] WPIX
DNC **C2002-120508**
TI Multilayer biodegradable matrix useful for repairing and generating tissues, comprises two layers, each containing a **cross-linked** polymeric component selected from a protein and a polysaccharide.
DC A96 B04 D16 D22
IN **LIU, L S; SPIRO, R C**
PA (ORQU-N) ORQUEST INC; (DEPU-N) DEPUY ACROMED INC
CYC 96
PI WO 2002017713 A1 20020307 (200245)* EN 20 A01N001-00
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
AU 2001083239 A 20020313 (200249) A01N001-00
EP 1320295 A1 20030625 (200341) EN A01N001-00
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR
JP 2004507472 W 20040311 (200419) 33 A61K047-36 <--
US 6773723 B1 20040810 (200453) A61K031-715 <--
ADT WO 2002017713 A1 WO 2001-US25017 20010810; AU 2001083239 A AU 2001-83239 20010810; EP 1320295 A1 EP 2001-962023 20010810, WO 2001-US25017 20010810; JP 2004507472 W WO 2001-US25017 20010810, JP 2002-522698 20010810; US 6773723 B1 US 2000-652604 20000830
FDT AU 2001083239 A Based on WO 2002017713; EP 1320295 A1 Based on WO 2002017713; JP 2004507472 W Based on WO 2002017713
PRAI US 2000-652604 20000830
IC ICM A01N001-00; **A61K031-715**; **A61K047-36**
ICS A01N001-02; A01N043-04; A61K009-06; A61K009-70; A61K031-70; A61K038-00; A61K038-16; A61K038-22; A61K045-00; A61K047-42; A61K047-48; A61K048-00; A61P019-02; A61P019-04; A61P019-08; A61P043-00; B32B005-32; C08H001-02; C12Q003-00
AB WO 200217713 A UPAB: 20030919
NOVELTY - A multilayer biodegradable matrix comprising two layers, where each layer contains a **cross-linked** polymeric component selected from a protein or a polysaccharide, is new.
DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for preparing the matrix comprising applying a first **cross-linked** polymeric layer to a second **cross-linked** polymeric layer, where both the polymeric layers contain a polysaccharide or protein **cross-linked** to another polysaccharide or protein.
ACTIVITY - Osteopathic. Experimental methods are described but no results are given.
MECHANISM OF ACTION - Gene therapy.
USE - The matrix is used for repairing and generating tissues in vivo, at a site of desired tissue regeneration (preferably bone growth, cartilage growth or joint repair) (claimed).
Dwg.0/1
FS CPI
FA AB; DCN
MC CPI: **A03-A00A**; A03-C01; A09-A07; A12-V02; **B04-C02**; B04-C02C; **B04-C02E**; B04-E01; B04-E08; B04-F01; B04-H06; B04-H19; B04-J01; B04-N02; B04-N04; B11-C04A; B14-N01; D05-H08; D05-H10; D09-C
TECH UPTX: 20020717
TECHNOLOGY FOCUS - POLYMERS - Preferred Component: The protein is collagen, albumin, fibrinogen, fibronectin, vitronectin or laminin. The polysaccharide is hyaluronic acid, dextran, dextran sulfate, chondroitin sulfate, dermatan sulfate, keratan sulfate, chitin, chitosan, heparin,

heparin sulfate or alginate.
Preferred Process: The protein and/or polysaccharide in each layer is covalently **cross-linked**, **cross-linked** with divinyl sulfone or **cross-linked** with bi-, tri- or poly-aldehyde.
Preferred Layer: The layers are attached to each other through chemical **cross-linking** with divinyl sulfone or thermal dehydration or are mechanically adhered to each other. The layers are different in chemical composition, physical density or structural porosity from each other. The poly-aldehyde comprises an oxidized polysaccharide derivative carrying an aldehyde group. The first layer comprises two polysaccharides or proteins **cross-linked** to each other and comprises collagen **cross-linked** to collagen or two different polysaccharide or proteins **cross-linked** to each other (preferably hyaluronate **cross-linked** to collagen).
TECHNOLOGY FOCUS - BIOTECHNOLOGY - Preferred Matrix: The matrix or layers contain(s) a growth factor, cDNA, gene construct, hormone or other biologically active substance.

ABEX UPTX: 20020717
ADMINISTRATION - The matrix is administered by implantation or direct application.

EXAMPLE - A collagen (COL) matrix was prepared by blending COL fiber with divinyl sulfone (DVS). The COL/DVS slurry formed was poured into a mold and allowed to sit on a bench at room temperature for 30 minutes. Hyaluronic acid (HA) HA/DVS viscose was poured on the top of the COL/DVS gel. After sitting on a bench at room temperature for an additional hour, the matrix was lyophilized. The matrix was immersed in 10 % isopropyl alcohol for 1 hour, then in a large volume of deionized water for 48 hours, followed by lyophilization. One bilayer matrix was soaked in a solution of fibroblast growth factor (FGF) and second bilayer matrix was implanted without FGF. The matrix was cut to cubes, sterilized, loaded with fetal rat calavarial (FRC) cells and cultured at 37 degrees Centigrade in Dulbecco's modified Eagle's medium/minimal essential medium (DMEM) for 4 weeks. The medium was changed every day. After 4 weeks, the matrix was removed from the medium, washed with phosphate buffered saline (PBS) and examined. The results showed cell proliferation for COL layer with FGF(I)/COL layer without FGF(II)/HA layer with(I)/HA layer without FGF(IV) as 6.88/6.42/5.53/4.58, alkaline phosphatase (micromole/gDNA/min) for (I)/(II)/(III)/(IV) as 61.8/103/7/13, and sulfated glycosaminoglycans for (I)/(II)/(III)/(IV) as 0.45 +/- 0.03/-0.02 +/- 0.06/2.53 +/- 0.08/0.9 +/- 0.1. The data indicated that the differentiation of cells within distinct regions of the bilayer matrix can be determined by specific compositional changes.

L158 ANSWER 5 OF 12 WPIX COPYRIGHT 2004 THE THOMSON CORP on STN
AN 2002-129380 [17] WPIX
CR 1999-105769 [09]; 2003-512133 [48]; 2004-374249 [35]
DNC C2002-039541
TI **Carrier** for the delivery of a therapeutic agent comprises two polysaccharides covalently **cross-linked** to each other.
DC A11 A96 B07 D16
IN **LIU, L; SPIRO, R C; THOMPSON, A Y**
PA (ORQU-N) ORQUEST INC
CYC 1
PI US 6303585 B1 20011016 (200217)* 7 C08B037-00 <--
ADT US 6303585 B1 **CIP of US 1997-887994 19970703, US 1998-110381 19980701**
PRAI **US 1998-110381 19980701; US 1997-887994 19970703**
IC ICM **C08B037-00**
ICS **A61K031-715**

AB US 6303585 B UPAB: 20040603
NOVELTY - An injectable biodegradable **carrier** comprising a first polysaccharide (I) **cross-linked** to a second polysaccharide (II), where (I) and (II) are hyaluronic acid, dextran, dextran sulfate, chondroitin sulfate, dermatan sulfate, keratan sulfate, heparin, heparan sulfate or alginate, and where (I) and (II) are covalently **cross-linked** to each other through **imine** bonds between amino groups on (II) and **aldehyde** groups from oxidized sugar rings on (I), is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

(1) a therapeutic composition comprising the **carrier** and a therapeutic agent; and

(2) preparing the **carrier** by reacting a derivative of (I) having **aldehyde** group with (II), where the **aldehyde** groups covalently react to **cross link** with (II) to form the **carrier.**

USE - For the in vivo delivery of a therapeutic agent and for inducing bone growth in vivo (claimed).

ADVANTAGE - The **carrier** is biodegradable, biocompatible and allows for targeted delivery and controlled release of the therapeutic agent.

Dwg.0/2

FS CPI

FA AB; DCN

MC CPI: **A03-A00A**; **A12-V01**; **B04-C02**; B04-E01; B04-H06; B04-J01; B12-M03; **D05-A03A**; D05-H10

TECH UPTX: 20020313
TECHNOLOGY FOCUS - POLYMERS - Preferred Polysaccharide: (I) and (II) both may be same (preferably both hyaluronate) or different (preferably (I) is hyaluronate and (II) is chondroitin sulfate). Preferred Method: The method further comprises the step of oxidizing (I) with periodate to form the first polysaccharide derivative. The first polysaccharide derivative contains an excess of **aldehyde** group such that free **aldehyde** groups remain subsequent to the **cross-linking** to (II). The method further comprises reacting the first polysaccharide derivative with the therapeutic agent prior to reaction with (II).

TECHNOLOGY FOCUS - PHARMACEUTICALS - Preferred Therapeutic Agent: The therapeutic agent is a growth factor, cytokine, hormone, a DNA construct or an osteogenic agent (preferably a growth factor, especially bFGF). The therapeutic agent is covalently bonded to the **carrier** or is entrapped within the **carrier.** Preferred **Carrier**: The **carrier** is in a gel-like form.

ABEX UPTX: 20020313
EXAMPLE - Hyaluronate/**polyaldehyde** (HA-pAld) was prepared by the oxidation of hyaluronate using sodium periodate as an oxidizer. Albumin, bovine-fluorescein isothiocyanate (FITC-BSA) (10 mg) in deionized water (2 ml) was added to HA-pAld solution (23 ml). The solution was incubated at room temperature for 20 minutes and then mixed with hyaluronate-amine solution (25 ml) (prepared by reacting hyaluronate with **ethylene diamine** in the presence of water soluble 1-(3-dimethylaminopropyl)-3-ethylcarbodiimide hydrochloride). This solution was incubated at room temperature for an additional 20 minutes. The gel thus formed was incubated in deionized water (500 ml) at room temperature. The incubation medium was replaced at time point 1, 2, 4, 6, 8, 24, 48 hours and every two days thereafter for two weeks. The release of FITC-BSA in the incubation medium was determined by measuring the outer diameter (O.D.) at 495 nm. It was observed that about 12% of the FITC-BSA were released from the **carrier** in the first two hours. After that no significant amount of protein was found indicating that the remaining protein was covalently immobilized in the gel.

L158 ANSWER 6 OF 12 WPIX COPYRIGHT 2004 THE THOMSON CORP on STN
AN 2001-102618 [11] WPIX
DNC C2001-030011
TI Promotion of bone or cartilage tissue growth using injectable materials comprising a hyaluronic acid-linker-sulfated polysaccharide material which can bind and release growth factors.
DC A11 A96 B04
IN **LIU, L; SPIRO, R C**
PA (ORQU-N) ORQUEST INC; (DEPU-N) DEPUY ACROMED INC
CYC 94
PI WO 2000078356 A1 20001228 (200111)* EN 23 A61K047-48 <--
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
AU 2000058778 A 20010109 (200122)
US 6288043 B1 20010911 (200154) A61K031-715 <--
EP 1187636 A1 20020320 (200227) EN A61K047-48 <--
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SI
JP 2003502389 W 20030121 (200308) 27 A61K047-48 <--
NZ 515988 A 20031219 (200404) A61K047-48 <--
AU 771500 B2 20040325 (200454) A61K047-48 <--
ADT WO 2000078356 A1 WO 2000-US16793 20000616; AU 2000058778 A AU 2000-58778 20000616; US 6288043 B1 US 1999-336005 19990618; EP 1187636 A1 EP 2000-944722 20000616, WO 2000-US16793 20000616; JP 2003502389 W WO 2000-US16793 20000616, JP 2001-504418 20000616; NZ 515988 A NZ 2000-515988 20000616, WO 2000-US16793 20000616; AU 771500 B2 AU 2000-58778 20000616
FDT AU 2000058778 A Based on WO 2000078356; EP 1187636 A1 Based on WO 2000078356; JP 2003502389 W Based on WO 2000078356; NZ 515988 A Based on WO 2000078356; AU 771500 B2 Previous Publ. AU 2000058778, Based on WO 2000078356
PRAI US 1999-336005 19990618
IC ICM **A61K031-715**; **A61K047-48**
ICS A61F002-00; **A61K009-06**; **A61K009-14**; **A61K038-27**; **A61K047-36**; A61P019-00; **C08B037-00**
AB WO 200078356 A UPAB: 20010224
NOVELTY - A hyaluronic acid (HA), which is **cross-linked** through linking groups to a sulfated polysaccharide (SP), is used as an injectable composition for promoting bone or cartilage tissue growth. The linking groups are diamines or diamine-polyalkylene glycols.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for:

(1) inducing growth of bone or cartilage tissue in vivo, by administering an injectable composition comprising (i) a composition as described above and (ii) a growth factor at the desired tissue growth site; and

(2) preparation of an injectable gel for supporting repair of bone or cartilage, comprising: (i) oxidizing HA to form a modified HA containing **aldehyde** groups; (b) reacting the modified HA with a linking agent containing terminal amine groups to form a HA with pendant linking groups and terminal amine groups; and (c) reacting this HA with a modified SP containing **aldehyde** groups, to covalently link the SP to the linking groups.

ACTIVITY - Osteopathic.

The effect of hyaluronate-heparin **imine**-linked (HAHPi) gels, which contained FGF-2, on periosteal bone formation, was examined in Sprague-Dawley rats (4-6 weeks old; 140-160 g; male). 50 micro l aliquots of gel formulations containing FGF-2 (10 ng-1 mg/ml), or control **carrier** solution, were injected into pockets created under the

periosteum of the parietal bone of the rats. The animals were sacrificed after 14 days and the thickness of the parietal bone, excluding the thickness of the periosteum, was examined. The mean thickness of the parietal bone was (i) 660 micro m for rats treated with a HAHPi/FGF-2 gel, (ii) 294 micro m for rats treated with a FGF-2/buffer formulation, (iii) 283 micro m for rats treated with a HA/FGF-2 formulation and (iv) 309 micro m for rats treated with HAHPi alone.

MECHANISM OF ACTION - None given.

USE - The injectable composition is useful for inducing tissue growth at a target bone or cartilage site. It can be used for filling of bone defects, for fracture repair or for grafting periodontal defects.

ADVANTAGE - Growth factors are capable of binding specifically to the gels and being released by the gels. This release occurs in a controlled manner that is dependent on the density of the gel. The HA component chiefly imparts the property of making the composition injectable and retainable at the site of desired tissue growth.

Dwg.0/5

FS CPI

FA AB; DCN

MC CPI: **A03-A00A**; A08-D04; A10-E21A; **A11-C02**; **A12-V01**; **B04-C02**; B04-C02C; **B04-C02E1**; **B04-C02E2**; B12-M10A; B14-N01; B14-N17B

TECH UPTX: 20010224

TECHNOLOGY FOCUS - PHARMACEUTICALS - Preferred Composition: the composition is a water-soluble, viscous gel. The SP is heparin, chondroitin sulfate, dextran sulfate, dermatan sulfate, heparan sulfate, keratan sulfate, hexuronyl hexosaminoglycan sulfate, inositol hexasulfate or sucrose octasulfate. The linking group is **ethylene diamine**, hexane diamine, dodecane diamine or diamine-polyethylene glycol. The molecular weight of the linking group is 1000-6000 Daltons. The molecular weight of the HA is 1 x 106 to 2 x 106 Daltons. The molecular weight of the SP is less than 104 Daltons. The HA is bonded to the linking group by an amine, while the SP is bonded to the linking group by an amine or **imine**. The composition can be prepared as described in (2) above. The composition may also comprise a growth factor e.g. an insulin-like growth factor, transforming growth factor-beta, bone morphogenic protein, epidermal growth factor and especially a fibroblast growth factor.

ABEX UPTX: 20010224

ADMINISTRATION - Administration is by injection at the desired site.

L158 ANSWER 7 OF 12 WPIX COPYRIGHT 2004 THE THOMSON CORP on STN

AN **2000-444996** [39] WPIX

DNC **C2000-135697**

TI Inclusive **carrier** for carrying microbial cells or enzymes, has an ion **crosslinking** property and an included cationic substance.

DC A96 B04 D16

PA (NPDE) NIPPONDENSO CO LTD

CYC 1

PI JP 2000139458 A 20000523 (200039)* 5 C12N011-04

ADT JP 2000139458 A **JP 1998-314922 19981105**

PRAI **JP 1998-314922 19981105**

IC ICM C12N011-04

ICS C12N011-08; C12N011-10

ICA C12N001-20

ICI C12R001:25; C12N001-20

AB JP2000139458 A UPAB: 20000818

NOVELTY - Inclusive **carrier** for carrying a microbial cell or an enzymes has ion **crosslinking** property and an included cationic substance.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for the manufacture of the inclusive **carrier** involving a **crosslinking** process on the **carrier** material with ion

crosslinking property added with the cationic substance.
USE - For carrying microbial cells or enzymes.
ADVANTAGE - The cation is uniformly stabilized in the **carrier** since the organic compound is uniformly incorporated in the polymeric chain.
Dwg.0/3
FS CPI
FA AB; DCN
MC CPI: **A03-A00A**; A05-J07; A08-D; **A11-C02**; **A12-V01**; B04-F10; B04-L01; **D05-A03A**; D05-H08; D05-H10
TECH UPTX: 20000818
TECHNOLOGY FOCUS - POLYMERS - Preferred **Carrier**: The **carrier** consist of agar and resin with optical **crosslinking** properties.

TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preferred Substance: The cationic substance is an organic compound containing amine like polyethylene **imine** or hexamethylenediamine. The cation is mutually **crosslinked** by a **glutaraldehyde.**
Preferred Method: Survival and the enzyme reaction of the microbe is carried out under a low pH environment.

TECHNOLOGY FOCUS - INORGANIC CHEMISTRY - Preferred Coating: The **carrier** is coated by a skin layer consisting of calcium alginate.

L158 ANSWER 8 OF 12 WPIX COPYRIGHT 2004 THE THOMSON CORP on STN
AN **2000-053081** [04] WPIX
DNN **N2000-041368** DNC **C2000-013785**
TI New aminocarboxylic carbohydrate derivative used a chelating agent.
DC A11 A97 D15 D22 E19 F09 G02 P34
IN BESEMER, A C; THORNTON, J W; VAN BRUSSEL-VERRAEST, D L
PA (SCAD) SCA HYGIENE PROD NEDERLAND BV
CYC 86
PI WO 9958574 A1 19991118 (200004)* EN 17 C08B031-00
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW
AU 9941720 A 19991129 (200018) C08B031-00
ADT WO 9958574 A1 WO 1999-NL300 19990517; AU 9941720 A AU 1999-41720 19990517
FDT AU 9941720 A Based on WO 9958574
PRAI **EP 1998-201586 19980514**
IC ICM C08B031-00
ICS A61L015-00; C08B015-06; C08B031-18; C09D007-12; D21C009-16
AB WO 9958574 A UPAB: 20000124
NOVELTY - An aminocarboxylic acid derivative of a carbohydrate is new.
DETAILED DESCRIPTION - A new aminocarboxylic acid derivative (D) of a carbohydrate has at least one -CHOH- or -CH2OH group per 10 monosaccharide units converted to a group (G) of formula (I).
m = 1 to 10;
n = 0 to 4;
A = a direct bond or a group -NH-(CH2)p-;
p = 2 to 6; and
R1 = hydrogen, carboxyl or 1-4 C alkyl optionally substituted by hydroxy, methoxy, mercapto, methylthio, substituted mercapto or dithio, amino, guanidino, guanyl, ureido, carboxyl, carbamoyl, optionally substituted phenyl, or a heterocyclic group, or, if n is not 0, amino.
INDEPENDENT CLAIMS are also included for the preparation of the derivative.
USE - The derivative is used as a chelating compound, especially in

the paper and pulp industry, as a polarity-inducing compound, especially in films or coatings, and/or as a water-absorbing compound, especially in hygiene products (all claimed).
Dwg.0/0
FS CPI GMPI
FA AB; GI; DCN
MC CPI: **A03-A**; A10-E01; **A12-V03A**; A12-W11; D04-A01G; D04-A01P; D04-B05; D09-C03; D09-C06; E07-A02; E07-H02; E10-A07; F04-C01; F04-E04; F05-A06C; F05-A06D; G02-A03
TECH UPTX: 20000124
TECHNOLOGY FOCUS - POLYMERS - Preferred Carbohydrate: The carbohydrate is an alpha-1,4-glucan, a beta-1,4-glucan or a beta-2,1-fructan and preferably contains hydroxymethyl groups in its monosaccharide units.
Preferred Derivative: The derivative contains 2-12 groups of formula (I) per 10 monosaccharide units, has a degree of polymerisation at least 3, preferably at least 8, and is **crosslinked.**
Preferred Modifying Group: Group (G) is represented by the compound with (i) the general formula (II) or (ii) a carboxyl group and a group having the general formula (III).
R4 and R5 = hydrogen or 1-4 C alkyl optionally substituted by hydroxy, amino or carboxyl;
R2 = H, 1-4C alkyl, hydroxy(1-3C)alkyl, carboxy(1-2C)alkyl or dicarboxy(1-3C) alkyl; and
R3 = H, amino(2-3C)alkyl, hydroxy(1-3C)alkyl or carboxy(1-2C)alkyl.
Preparation: The derivative is prepared by oxidizing a carbohydrate to produce a carbohydrate **aldehyde** and reacting this with an amine of formula (IV).
Preferred Process: The process comprises reacting the carbohydrate **aldehyde** with:
(a) an amine of formula HNR4R5 and a cyanide, to produce an aminonitrile group having the formula -CH(NR4R5)-CN, and hydrolyzing the aminonitrile group; or
(b) an amine having the general formula HNR2R3, to produce an **imine**, and reacting the **imine** with a reducing agent, optionally in a single step.
The carbohydrate is optionally **crosslinked** prior to or after the oxidation of the carbohydrate or after the reduction reaction.
ABEX UPTX: 20000124
EXAMPLE - 2g of 50% oxidized starch were suspended in 50 ml water and 4g aspartic acid added. The pH was adjusted to 6 and then 800 mg sodium cyano borohydride were added in small portions. The reductive amination was performed at a constant pH of 6 for 48-96 hours. The mixture was then adjusted to pH 7 and 200 mg NaBH4 added to reduce non-reacted **aldehydes.** The degree of substitution was 0.68.

L158 ANSWER 9 OF 12 WPIX COPYRIGHT 2004 THE THOMSON CORP on STN
AN **2000-012020** [01] WPIX
CR 1998-413790 [35]; 2002-138204 [75]
DNC **C2000-002150**
TI Preparation of a collagen-polysaccharide matrix useful for repairing bone and cartilage.
DC A96 B04
IN **LIU, L**; **SPIRO, R**
PA (ORQU-N) ORQUEST INC
CYC 1
PI US 5972385 A 19991026 (200001)* 10 A61K038-39
ADT US 5972385 A CIP of US 1997-783650 19970115, US 1998-7731 19980115
FDT US 5972385 A CIP of US 5866165
PRAI US 1998-7731 19980115; US 1997-783650 19970115
IC ICM A61K038-39
ICS A61K009-10; **A61K047-36**; A61K047-42
AB US 5972385 A UPAB: 20020319
NOVELTY - Preparing a matrix to support the repair of tissue by reacting a

modified exogenous polysaccharide with collagen is new.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for:
(1) a method for preparing a matrix comprising:
(a) oxidizing an exogenous polysaccharide to form a modified exogenous polysaccharide with aldehyde groups;
(b) reacting the modified exogenous polysaccharide with collagen to covalently **cross-link** the aldehyde groups with the collagen to form the matrix; and
(c) adding a growth factor to the matrix;
(2) a matrix formed by the method of (I); and
(3) a method of conducting the growth of bone or cartilage tissue in vivo, comprising administering the matrix of (I) at the site of desired bone growth.
USE - The matrix can be used to repair bone, cartilage and soft tissue. The tissue defects which can be repaired can be due to a congenital condition, trauma, surgery cancer or other disease.
Dwg.0/0

FS CPI
FA AB; DCN
MC CPI: **A03-A00A**; A03-C01; A08-D; A10-E11; **A11-C02**; A12-V02; B04-C02C; **B04-C02E1**; **B04-C02E2**; B04-H06; B04-N02; B14-N01

TECH UPTX: 20000105
TECHNOLOGY FOCUS - BIOLOGY - Preferred Materials: The growth factor used is a member of the transforming growth factor (TGF)-beta super family, a member of the bone morphogenic proteins (BMP) family, the growth differentiation factors (GDF's), ADMP- 1, a member of the fibroblast growth factor family, a member of the hedgehog family of proteins, a member of the insulin-like growth factor (IGF) family, a member of the platelet-derived growth factor (PDGF) family, a member of the interleukin (IL) family or a member of the colony-stimulating factor (CSF) family. The polysaccharide comprises hyaluronic acid, chondroitin sulfate, dermatan sulfate, keratin sulfate, heparin, heparin sulfate, dextran, dextran sulfate or alginate. The collagen is selected from type I and type II collagen.
Preferred Method: The step of oxidizing the polysaccharide comprises treatment of the polysaccharide with periodate. The collagen and polysaccharide are used at ratio 99:1 to 1:99 (especially 9:1 to 1:9) by weight, respectively. About 1-50 (especially 1-5)% of the repeat units in the polysaccharide are oxidized to contain aldehyde groups. The matrix is formed by freezing and lyophilization, or by wet laying and air drying. Fibrinogen and thrombin are added to the matrix to form fibrin.

ABEX UPTX: 20000105
EXAMPLE - Production of a matrix for use in bone and/or cartilage repair using Type I collagen as a raw material comprised Semed F collagen (8.1 parts) and Semed S collagen (0.9 part) dispersed in a hyaluronate/polyaldehyde solution (1 part 5% of the repeat units were oxidized: pH 3- 3.5) containing 10 mM sodium cyanoborohydride (NaCNBH3), in a heavy duty blender at low speed for 10 seconds followed by high speed for another 5 seconds. The slurry (solids concentration: 28 mg/ml) was poured into a mold, incubated at ambient temperature for 24 hours and lyophilized. A sponge was formed which was washed several times in distilled water to completely remove the NaCNBH3 and the washed sponge was then lyophilized.

L158 ANSWER 10 OF 12 WPIX COPYRIGHT 2004 THE THOMSON CORP on STN
AN **1999-205861** [18] WPIX
DNC **C1999-060151**
TI Microfiltration layer for removing endotoxins from liquids.
DC A96 B04 D15 D22 J01
IN ANSPACH, B; BEESKOW, T; DECKWER, W; PETSCH, D
PA (GBFB) GES BIOTECHNOLOGISCHE FORSCHUNG MBH
CYC 21

PI DE 19740770 A1 19990318 (199918)* 15 B01D069-02
WO 2000016897 A1 20000330 (200024)# GE B01J020-32
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
W: CA JP US
ADT DE 19740770 A1 **DE 1997-1040770 19970917**; WO 2000016897 A1 **WO 1998-EP5974 19980918**
PRAI **DE 1997-19740770 19970917; WO 1998-EP5974 19980918**
IC ICM B01D069-02; B01J020-32
ICS B01D015-00; B01D061-00; B01D061-14; C02F001-44
AB DE 19740770 A UPAB: 20000308
NOVELTY - A microfiltration filter layer, for removal of endotoxins from liquid media, includes covalently bonded ligands for endotoxins, carried by a polymer applied to the filter layer material.

USE - Use of the layer is claimed for removing endotoxins from liquid media, especially water, protein solutions or parenteral solutions. Typical applications are haemodialysis; production of safe infusion or injection solutions or diagnostic agents (e.g. antibodies); production of biological drugs (including high-molecular drugs such as proteins); treatment of biotechnological process waters and raw materials; and decontamination of products.

ADVANTAGE - Endotoxins are almost completely removed, e.g. to give a residual concentration of below 1 EU per ml or below the detection limit of the limulus amebocyte lysate (LAL) test. The endotoxins are removed selectively, so that proteins can be decontaminated without reduction of endotoxin removal capacity and loss of product due to simultaneous adsorption of the protein.

Dwg.0/2
FS CPI
FA AB; DCN
MC CPI: **A12-V03**; A12-W11A; B04-F10A; D04-A01E; D09-A01; J01-C03
TECH UPTX: 20001114
TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preferred Components: The filter layer includes an endotoxin-specific ligand (preferably histamine, histidine, polyethyleneimine, poly-L-lysine or polymyxin B) and/or a ligand which is not itself endotoxin-specific (preferably diaminohexane, diethylaminoethyl or desoxycholate). The polymer is fixed to the filter layer using a spacer and the ligand is fixed to the polymer using a spacer (optionally after oxidative activation); in both cases the spacer is preferably bis-oxirane, **glutadialdehyde**, epihalohydrin or diisocyanate.

TECHNOLOGY FOCUS - POLYMERS - Preferred Polymers: The filter layer may be of polysaccharide (e.g. cellulose, preferably regenerated or microcrystalline cellulose) or derivatives, preferably cellulose acetate, agarose or derivatives, **crosslinked** dextran or derivatives or chitosan or derivatives); or synthetic polymers, e.g. polyacrylonitrile, polysulphone, polyamide (especially nylon), polyvinyl alcohol, ethylene-vinyl alcohol copolymer, polystyrene or polyacrylate (or their derivatives). The ligand-carrying polymer is a water-soluble or insoluble hydrophilic polymer, preferably dextran, polyvinyl alcohol or modified cellulose (especially hydroxyethyl cellulose). The ligand may be polyethyleneimine or poly-L-lysine.

TECHNOLOGY FOCUS - INORGANIC CHEMISTRY - Preferred Materials: The filter layer may be of inorganic materials such as silica gel, glass, ceramics or their derivatives.
ABEX UPTX: 20001114
EXAMPLE - 40 ml of Sepharose 4B suspension was shaken with 20 ml of 0.5 M NaOH Solution, 8 ml bis-oxirane and 40 mg NaBH4 for 2 hours at 40degreesC. The activated Sepharose product was filtered off, washed with water and shaken for 60 minutes at room temperature with an equal volume of a solution of 20% dextran (average molecular weight 40000) and 0.2% NaBH4 in

0.025 M carbonate buffer (pH 11). The dextran-coated Sepharose product was recovered by filtration and incubated for 24 hours at 80degreesC. The coated product was again activated with bis-oxirane as described above, incubated at pH 2.5 for 30 minutes (to hydrolyze the free oxirane ring), incubated in 0.2 M periodate for 90 minutes (to oxidize the obtained vicinal diol), reacted for 2 hours with a solution of 0.5 g polyethylene **imine** (average molecular weight 50000) in 10 ml of 0.1 M phosphate buffer (pH 8) and washed with 1M NaCl solution and water. A 13.4 cm2 disc of the obtained filter layer was fixed in an ultrafiltration cell and washed free of traces of endotoxins with 30% ethanolic 0.1 M NaOH, 1.5 M NaCl solution and pyrogen-free water. In use, after equilibration, 20 ml of contaminated solution was passed through the layer at 2 ml/minute, collected and subjected to the LAL test. Typically the concentration of endotoxins in water was reduced from 270 EU/ml to below 0.015 EU/ml by this treatment.

L158 ANSWER 11 OF 12 WPIX COPYRIGHT 2004 THE THOMSON CORP on STN
AN 1999-105769 [09] WPIX
CR 2002-129380 [17]; 2003-512133 [48]; 2004-374249 [35]
DNC C1999-031563
TI Biodegradable **carrier** for delivery of therapeutic agents - comprises first polysaccharide **crosslinked** to second polysaccharide.
DC A11 A96 B04 B07 D16
IN **LIU, L; SPIRO, R C; THOMPSON, A Y**
PA (ORQU-N) ORQUEST INC
CYC 82
PI WO 9901143 A1 19990114 (199909)* EN 26 A61K031-715 <--
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM GW HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW
AU 9882909 A 19990125 (199923)
EP 1011690 A1 20000628 (200035) EN
R: AT BE CH DE DK ES FI FR GB GR IE IT LI NL PT SE
CN 1268057 A 20000927 (200067)
NZ 502134 A 20020328 (200232) A61K031-715 <--
JP 2002509538 W 20020326 (200236) 22 A61K047-36 <--
AU 752800 B 20021003 (200301) A61K031-715 <--
ADT WO 9901143 A1 **WO 1998-US13997 19980701**; AU 9882909 A **AU 1998-82909 19980701**; EP 1011690 A1 **EP 1998-933196 19980701, WO 1998-US13997 19980701**; CN 1268057 A **CN 1998-808439 19980701**; NZ 502134 A **NZ 1998-502134 19980701, WO 1998-US13997 19980701**; JP 2002509538 W **WO 1998-US13997 19980701, JP 1999-507459 19980701**; AU 752800 B **AU 1998-82909 19980701**
FDT AU 9882909 A Based on WO 9901143; EP 1011690 A1 Based on WO 9901143; NZ 502134 A Based on WO 9901143; JP 2002509538 W Based on WO 9901143; AU 752800 B Previous Publ. AU 9882909, Based on WO 9901143
PRAI **US 1997-887994 19970703**
IC ICM **A61K031-715; A61K047-36**
ICS **A61K009-14; A61K045-00**; A61P019-00
AB WO 9901143 A UPAB: 20040603
A biodegradable **carrier** for the delivery of therapeutic agents comprises: a first polysaccharide **crosslinked** to a second polysaccharide in which the first and second polysaccharides are each a derivative of hyaluronic acid, dextran, dextran sulphate, chondroitin, sulphate, dermatan sulphate, keratan sulphate, heparan, heparan sulphate or alginate; and in which the first and second polysaccharides are covalently **crosslinked** to each other through **oxime** bonds between amino groups on the second polysaccharide and

aldehyde groups from oxidised sugar rings on the first polysaccharide. Also claimed is a method of delivering a therapeutic agent in vivo comprising administration of a composition comprising a biodegradable **carrier** and a therapeutic agent at a site of desired delivery.

USE - The therapeutic agent is e.g. growth factors, cytokines, hormones or DNA constructs. The growth factor is, e.g. bFGF. Alternatively, the agent is an oesteogenic agent. The composition can be used for inducing bone growth in vivo by administration at the site of desired bone growth.

ADVANTAGE - The **carriers** of therapeutic agents are biodegradable, biocompatible and allow for targetted delivery and controlled release of the therapeutic agent.

Dwg.0/2

FS CPI

FA AB; DCN

MC CPI: A03-A01; A09-A07; **A12-V01**; **B04-C02E**; B04-C03D; B04-E01; B04-H06; B04-J01; B11-C04A; B14-N01; **D05-A01A1**; D05-H08; D05-H18

L158 ANSWER 12 OF 12 WPIX COPYRIGHT 2004 THE THOMSON CORP on STN

AN **1998-413790** [35] WPIX

CR 2000-012020 [01]; 2002-138204 [18]

DNC **C1998-124839**

TI Matrix for supporting repair of bone, cartilage or soft tissue - comprises collagen covalently linked to exogenous polysaccharide through oxidised sugar rings on polysaccharide.

DC B04 P34

IN **LIU, L**; **SPIRO, R C**

PA (ORQU-N) ORQUEST INC; (DEPU-N) DEPUY ACROMED INC

CYC 82

PI WO 9831345 A1 19980723 (199835)* EN 37 A61K009-10
RW: AT BE CH DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM GW HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW
AU 9859203 A 19980807 (199901)
US 5866165 A 19990202 (199912) A61K038-39
EP 994694 A1 20000426 (200025) EN
R: AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
JP 2000514698 W 20001107 (200059) 30 A61L027-00
AU 727430 B 20001214 (200103) A61K009-10
NZ 336480 A 20010330 (200121) A61K047-42
JP 3348861 B2 20021120 (200282) 13 A61L027-00
CA 2277110 C 20030422 (200336) EN A61K009-10
EP 994694 B1 20031029 (200379) EN A61K009-10
R: AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
DE 69819329 E 20031204 (200404) A61K009-10
EP 1374857 A1 20040102 (200409) EN A61K009-10
R: AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
ES 2209107 T3 20040616 (200442) A61K009-10

ADT WO 9831345 A1 WO 1998-US838 19980115; AU 9859203 A AU 1998-59203 19980115; US 5866165 A US 1997-783650 19970115; EP 994694 A1 EP 1998-902579 19980115, WO 1998-US838 19980115; JP 2000514698 W JP 1998-534551 19980115, WO 1998-US838 19980115; AU 727430 B AU 1998-59203 19980115; NZ 336480 A NZ 1998-336480 19980115, WO 1998-US838 19980115; JP 3348861 B2 JP 1998-534551 19980115, WO 1998-US838 19980115; CA 2277110 C CA 1998-2277110 19980115, WO 1998-US838 19980115; EP 994694 B1 EP 1998-902579 19980115, WO 1998-US838 19980115; DE 69819329 E DE 1998-619329 19980115, EP 1998-902579 19980115, WO 1998-US838 19980115; EP 1374857 A1 Div ex EP 1998-902579 19980115, EP 2003-78133 19980115; ES 2209107 T3 EP 1998-902579 19980115

FDT AU 9859203 A Based on WO 9831345; EP 994694 A1 Based on WO 9831345; JP 2000514698 W Based on WO 9831345; AU 727430 B Previous Publ. AU 9859203, Based on WO 9831345; NZ 336480 A Div in NZ 509721, Based on WO 9831345; JP 3348861 B2 Previous Publ. JP 200014698, Based on WO 9831345; CA 2277110 C Based on WO 9831345; EP 994694 B1 Based on WO 9831345; DE 69819329 E Based on EP 994694, Based on WO 9831345; EP 1374857 A1 Div ex EP 994694; ES 2209107 T3 Based on EP 994694
PRAI US 1997-783650 19970115
IC ICM A61K009-10; A61K038-39; A61K047-42; A61L027-00
ICS **A61K047-36**; A61L027-24; A61L027-26
AB WO 9831345 A UPAB: 20040702
The following are claimed: (A) matrix to support the repair of tissue, comprising collagen covalently linked to an exogenous polysaccharide (EP). The EP is **crosslinked** to the collagen through oxidised sugar rings on the EP which form covalent linkages to the collagen. (B) preparing a matrix to support the repair of tissue, comprising: (a) oxidising a EP to form a modified EP which has aldehyde groups; and (b) reacting the modified EP with collagen, under conditions where the aldehyde groups covalently react to **crosslink** with collagen to form the matrix.
USE- The matrix may be used to support growth or repair of tissue such as bone, cartilage or soft tissue.
ADVANTAGE- The matrix does not require extraneous **cross-linking** or ionic binding agents. It is biodegradable and biocompatible and can maintain structural integrity. It can be used to repair tissues without resorting to ex vivo cultivation methods. Fibrin may be present in the matrix to anchor the matrix into a desired site.
Dwg.0/0
FS CPI GMPI
FA AB; DCN
MC CPI: **B04-C02**; B04-N02; B14-N01

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FILE 'DPCI' ENTERED AT 09:19:59 ON 07 OCT 2004
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FILE LAST UPDATED: 30 SEP 2004 <20040930/UP>
PATENTS CITATION INDEX, COVERS 1973 TO DATE

>>> LEARNING FILE LDPCI AVAILABLE <<<

=> d all tot l159

L159 ANSWER 1 OF 3 DPCI COPYRIGHT 2004 THE THOMSON CORP on STN
AN 2003-512133 [48] DPCI
CR 1999-105769 [09]; 2002-129380 [17]; 2004-374249 [35]
DNC C2003-137060
TI Therapeutic composition for supporting cartilage repair and for inducing or conducting cartilage growth in vivo, has a biodegradable carrier, a therapeutic agent and optionally cells seeded on or into the carrier.
DC A96 B04 B05 D16
IN LIU, L S; SPIRO, R C; THOMPSON, A Y
PA (LIUL-I) LIU L S; (SPIR-I) SPIRO R C; (THOM-I) THOMPSON A Y; (DEPU-N) DEPUY ACROMED INC
CYC 1
PI US 2003012765 A1 20030116 (200348)* 8 A61K048-00
US 6683064 B2 20040127 (200408) A61K031-715 <--
ADT US 2003012765 A1 **CIP of US 1997-887994 19970703, Cont of US 1998-110381 19980701, US 2001-954855 20010917**; US 6683064 B2 **CIP of US 1997-887994 19970703, Cont of US 1998-110381 19980701, US 2001-954855 20010917**

FDT US 2003012765 A1 Cont of US 6303585; US 6683064 B2 Cont of US 6303585
PRAI **US 1998-110381 19980701; US 1997-887994**
19970703; US 2001-954855 20010917
IC ICM A61K031-715; A61K048-00
ICS A61K031-70; A61K031-728; A61K031-737; A61K038-00; A61K038-19;
A61K038-22; C08B037-00
FS CPI

EXF EXAMINER'S FIELD OF SEARCH UPE: 20040322

NCL US 6683064 B2 20040127
000/514.200; 000/514.440; 000/514.540; 000/514.560; 000/514.590;
000/536.112; 000/536.123 .1; 000/536.210; 000/536.300; 000/536.530

CTCS CITATION COUNTERS

PNC.DI	0	Cited Patents Count (by inventor)
PNC.DX	7	Cited Patents Count (by examiner)
IAC.DI	0	Cited Issuing Authority Count (by inventor)
IAC.DX	2	Cited Issuing Authority Count (by examiner)
PNC.GI	0	Citing Patents Count (by inventor)
PNC.GX	0	Citing Patents Count (by examiner)
IAC.GI	0	Citing Issuing Authority Count (by inventor)
IAC.GX	0	Citing Issuing Authority Count (by examiner)
CRC.I	0	Cited Literature References Count (by inventor)
CRC.X	2	Cited Literature References Count (by examiner)

CDP CITED PATENTS UPD: 20040322

Cited by Examiner

CITING PATENT CAT CITED PATENT ACCNO

US 6683064 B2 US 4931546 A 1988-016037/03
PA: (IMED-N) IMEDEX SA; (INMR) PASTEUR MERIEUX SERUMS & VACCINS; (INMR) INST MERIEUX
IN: TARDY, M; TAYOT, J; TAYOT, J L
US 5128326 A 1987-158688/23
PA: (BIOM-N) BIOMATRIX INC
IN: BALAZS, E A; LARSEN, N E; LESCHCHINER, A; LESHCHINER, A; BAIAZS, E A
US 5645587 A 1997-362795/33
PA: (CHAN-I) CHANDA J; (KURI-I) KURIBAYASHI R
IN: CHANDA, J; KURIBAYASHI, R
US 5677276 A 1996-321641/32
PA: (LJOL-N) LA JOLLA CANCER RES FOUND
IN: CHENG, S; CRAIG, W S; DICKERSON, K T; GLASS, J R; LIU, L; MULLEN, D G; POLAREK, J W
US 5904717 A 1994-167051/20
PA: (THMB-N) THM BIOMEDICAL INC
IN: BREKKE, J H; COUTTS, R D
WO 9641813 A2 1997-065419/06
PA: (GAER-I) GAERTNER H F; (OFFO-I) OFFORD R E
IN: GAERTNER, H F; OFFORD, R E
WO 9722371 A1 1997-350664/32
PA: (CLGE) COLLAGEN CORP
IN: BERG, R A; DELUSTRO, F A; RHEE, W M

REN LITERATURE CITATIONS UPR: 20040322

Citations by Examiner

CITING PATENT	CAT	CITED LITERATURE
US 6683064	B2	Fransson Biochimica et Biophysioca Acta 1976, 106-115.
US 6683064	B2	Streitwieser et al. Introduction to Organic Chemistry, Macmillan Publishing Company, Inc., New York, 1976, pp. 378-381.

L159 ANSWER 2 OF 3 DPCI COPYRIGHT 2004 THE THOMSON CORP on STN
AN 2002-129380 [17] DPCI
CR 1999-105769 [09]; 2003-512133 [48]; 2004-374249 [35]
DNC C2002-039541
TI Carrier for the delivery of a therapeutic agent comprises two polysaccharides covalently cross-linked to each other.
DC A11 A96 B07 D16
IN LIU, L; SPIRO, R C; THOMPSON, A Y
PA (ORQU-N) ORQUEST INC
CYC 1
PI US 6303585 B1 20011016 (200217)* 7 C08B037-00 <--
ADT US 6303585 B1 **CIP of US 1997-887994 19970703, US 1998-110381 19980701**
PRAI **US 1998-110381 19980701; US 1997-887994 19970703**
IC ICM C08B037-00
ICS A61K031-715
FS CPI

EXF EXAMINER'S FIELD OF SEARCH UPE: 20020806

NCL US 6303585 B1 20011016
000/514.200 .44; 000/514.540; 000/514.560; 000/514.590; 000/536.112; 000/536.123 .1; 000/536.210; 000/536.300; 000/536.530

CTCS CITATION COUNTERS

PNC.DI	0	Cited Patents Count (by inventor)
PNC.DX	7	Cited Patents Count (by examiner)
IAC.DI	0	Cited Issuing Authority Count (by inventor)
IAC.DX	2	Cited Issuing Authority Count (by examiner)
PNC.GI	0	Citing Patents Count (by inventor)
PNC.GX	1	Citing Patents Count (by examiner)
IAC.GI	0	Citing Issuing Authority Count (by inventor)
IAC.GX	1	Citing Issuing Authority Count (by examiner)
CRC.I	0	Cited Literature References Count (by inventor)
CRC.X	2	Cited Literature References Count (by examiner)

CDP CITED PATENTS UPD: 20020806

Cited by Examiner

CITING PATENT	CAT	CITED PATENT	ACCNO

US 6303585 B1 US 4931546 A 1988-016037/03
PA: (IMED-N) IMEDEX SA; (INMR) PASTEUR MERIEUX SERUMS & VACCINS; (INMR) INST MERIEUX
IN: TARDY, M; TAYOT, J; TAYOT, J L
US 5128326 A 1987-158688/23
PA: (BIOM-N) BIOMATRIX INC
IN: BALAZS, E A; LARSEN, N E; LESCHCHINER, A; LESHCHINER, A; BAIAZS, E A
US 5645587 A 1997-362795/33
PA: (CHAN-I) CHANDA J; (KURI-I) KURIBAYASHI R
IN: CHANDA, J; KURIBAYASHI, R
US 5677276 A 1996-321641/32
PA: (LJOL-N) LA JOLLA CANCER RES FOUND
IN: CHENG, S; CRAIG, W S; DICKERSON, K T; GLASS, J R; LIU, L; MULLEN, D G; POLAREK, J W
US 5904717 A 1994-167051/20
PA: (THMB-N) THM BIOMEDICAL INC
IN: BREKKE, J H; COUTTS, R D
WO 9641813 A2 1997-065419/06
PA: (GAER-I) GAERTNER H F; (OFFO-I) OFFORD R E
IN: GAERTNER, H F; OFFORD, R E
WO 9722371 A1 1997-350664/32
PA: (CLGE) COLLAGEN CORP
IN: BERG, R A; DELUSTRO, F A; RHEE, W M

REN LITERATURE CITATIONS UPR: 20020806

Citations by Examiner

CITING PATENT	CAT	CITED LITERATURE
US 6303585	B1	Fransson Biochimica et Biophysioca Acta 1976, 106-115.*
US 6303585	B1	Streitwieser et al. Introduction to Organic Chemistry,Macmillan Publishing Company, Inc., New York, 1976, pp. 378-381.

CGP CITING PATENTS UPG: 20030917

Cited by Examiner

CITED PATENT	CAT	CITING PATENT	ACCNO
US 6303585	B1 YE	WO 2003024984 A	2003-449095/42
	PA:	(CHEN-I) CHENG H N; (GUQQ-I) GU Q; (MURP-I) MURPHY D J; (QIAO-I) QIAO L; (WANG-I) WANG P G; (XIEW-I) XIE W; (HERC) HERCULES INC	
	IN:	CHENG, H N; GU, Q; MURPHY, D J; QIAO, L; WANG, P G; XIE, W	

L159 ANSWER 3 OF 3 DPCI COPYRIGHT 2004 THE THOMSON CORP on STN
AN 1999-105769 [09] DPCI
CR 2002-129380 [17]; 2003-512133 [48]; 2004-374249 [35]
DNC C1999-031563
TI Biodegradable carrier for delivery of therapeutic agents - comprises first polysaccharide crosslinked to second polysaccharide.
DC A11 A96 B04 B07 D16
IN LIU, L; SPIRO, R C; THOMPSON, A Y
PA (ORQU-N) ORQUEST INC

CYC 82
PI WO 9901143 A1 19990114 (199909)* EN 26 A61K031-715
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL
OA PT SD SE SZ UG ZW
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE
GH GM GW HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG
MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG
UZ VN YU ZW
AU 9882909 A 19990125 (199923)
EP 1011690 A1 20000628 (200035) EN
R: AT BE CH DE DK ES FI FR GB GR IE IT LI NL PT SE
CN 1268057 A 20000927 (200067)
NZ 502134 A 20020328 (200232) A61K031-715
JP 2002509538 W 20020326 (200236) 22 A61K047-36
AU 752800 B 20021003 (200301) A61K031-715
ADT WO 9901143 A1 **WO 1998-US13997 19980701**; AU 9882909 A AU 1998-82909 19980701; EP 1011690 A1 EP 1998-933196 19980701, **WO 1998-US13997 19980701**; CN 1268057 A CN 1998-808439 19980701; NZ 502134 A NZ 1998-502134 19980701, **WO 1998-US13997 19980701**; JP 2002509538 W **WO 1998-US13997 19980701**, JP 1999-507459 19980701; AU 752800 B AU 1998-82909 19980701
FDT AU 9882909 A Based on WO 9901143; EP 1011690 A1 Based on WO 9901143; NZ 502134 A Based on WO 9901143; JP 2002509538 W Based on WO 9901143; AU 752800 B Previous Publ. AU 9882909, Based on WO 9901143
PRAI **US 1997-887994 19970703**
IC ICM A61K031-715; A61K047-36
ICS A61K009-14; A61K045-00; A61P019-00
FS CPI

CTCS CITATION COUNTERS

PNC.DI	0	Cited Patents Count (by inventor)
PNC.DX	5	Cited Patents Count (by examiner)
IAC.DI	0	Cited Issuing Authority Count (by inventor)
IAC.DX	2	Cited Issuing Authority Count (by examiner)
PNC.GI	0	Citing Patents Count (by inventor)
PNC.GX	4	Citing Patents Count (by examiner)
IAC.GI	0	Citing Issuing Authority Count (by inventor)
IAC.GX	2	Citing Issuing Authority Count (by examiner)
CRC.I	0	Cited Literature References Count (by inventor)
CRC.X	3	Cited Literature References Count (by examiner)

CDP CITED PATENTS UPD: 20001020

Cited by Examiner

CITING PATENT	CAT	CITED PATENT	ACCNO
EP 1011690	A	No Citations	
WO 9901143	A Y	US 5128326	A 1987-158688/23
	PA:	(BIOM-N) BIOMATRIX INC	
	IN:	BALAZS, E A; LARSEN, N E; LESCHCHINER, A; LESHCHINER, A; BAIAZS, E A	
		US 5645587	A 1997-362795/33
	PA:	(CHAN-I) CHANDA J; (KURI-I) KURIBAYASHI R	
	IN:	CHANDA, J; KURIBAYASHI, R	
		US 5677276	A 1996-321641/32
	PA:	(LJOL-N) LA JOLLA CANCER RES FOUND	
	IN:	CHENG, S; CRAIG, W S; DICKERSON, K T; GLASS, J R; LIU,	

L; MULLEN, D G; POLAREK, J W
Y WO 9641813 A 1997-065419/06
PA: (GAER-I) GAERTNER H F; (OFFO-I) OFFORD R E
IN: GAERTNER, H F; OFFORD, R E
A WO 9722371 A 1997-350664/32
PA: (CLGE) COLLAGEN CORP
IN: BERG, R A; DELUSTRO, F A; RHEE, W M

REN LITERATURE CITATIONS UPR: 20001020

Citations by Examiner

CITING PATENT	CAT	CITED LITERATURE
EP 1011690	A	See references of WO 9901143A
WO 9901143	A	FRANSSON L.A., "Interaction Between Dermatan Sulfate Chains. I. Affinity Chromatography of Copolymeric Galactosaminoglycans on Dermatan Sulfate-Substituted Agarose", BIOCHIMICA BIOPHYSICA ACTA, 1976, Volume 437, Number 1, pages 106-115.
WO 9901143	A	FRANSSON L.A., "Interaction Between Dermatan Sulfate Chains. I. Affinity Chromatography of Copolymeric Galactosaminoglycans on Dermatan Sulfate-Substituted Agarose", BIOCHIMICA BIOPHYSICA ACTA, 1976, Volume 437, Number 1, pages 106-115, XP002912568

CGP CITING PATENTS UPG: 20040505

Cited by Examiner

CITED PATENT	CAT	CITING PATENT	ACCNO
WO 9901143	A X	WO 2003035122 A	2003-522997/42
	PA:	(AESC-N) AESCULAP AG & CO KG	
	IN:	GOLDMANN, H; WEGMANN, J	
WO 9901143	A1	US 6288043 B1	2001-102618/12
	PA:	(ORQU-N) ORQUEST INC	
	IN:	LIU, L; SPIRO, R C	
		US 6699471 B2	2000-442544/32
	PA:	(FIDI-N) FIDIA ADVANCED BIOPOLYMERS SRL; (CALL-I) CALLEGARO L; (PAST-I) PASTORELLO A; (PAVE-I) PAVESIO A; (RADI-I) RADICE M	
	IN:	CALLEGARO, L; PASTORELLO, A; PAVESIO, A; RADICE, M	
	Y	WO 2003024984 A	2003-449095/42
	PA:	(CHEN-I) CHENG H N; (GUQQ-I) GU Q; (MURP-I) MURPHY D J; (QIAO-I) QIAO L; (WANG-I) WANG P G; (XIEW-I) XIE W; (HERC) HERCULES INC	
	IN:	CHENG, H N; GU, Q; MURPHY, D J; QIAO, L; WANG, P G; XIE, W	

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FILE 'WPIX' ENTERED AT 09:24:55 ON 07 OCT 2004
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FILE LAST UPDATED: 6 OCT 2004 <20041006/UP>
MOST RECENT DERWENT UPDATE: 200464 <200464/DW>

DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

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>>> FOR DETAILS OF THE PATENTS COVERED IN CURRENT UPDATES, SEE http://thomsonderwent.com/coverage/latestupdates/ <<<

>>> FOR INFORMATION ON ALL DERWENT WORLD PATENTS INDEX USER GUIDES, PLEASE VISIT:
http://thomsonderwent.com/support/userguides/ <<<

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FOR FURTHER DETAILS: http://www.thomsonderwent.com/dwpifv <<<

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L166 ANSWER 1 OF 8 WPIX COPYRIGHT 2004 THE THOMSON CORP on STN
AN 2000-442544 [38] WPIX
DNN N2000-330171 DNC C2000-134665
TI Injectable biocompatible compositions, used for cartilage repair and gene therapy, comprise hyaluronic acid derivative(s) and biologically or pharmacologically active components and/or mammalian cells.
DC B02 B04 D16 D22 P34
IN CALLEGARO, L; PASTORELLO, A; PAVESIO, A; RADICE, M; CALLEGARD, L
PA (FIDI-N) FIDIA ADVANCED BIOPOLYMERS SRL; (CALL-I) CALLEGARO L; (PAST-I) PASTORELLO A; (PAVE-I) PAVESIO A; (RADI-I) RADICE M
CYC 90
PI WO 2000037124 A1 20000629 (200038)* EN 43 A61L027-38
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
AU 2000017916 A 20000712 (200048)
EP 1140240 A1 20011010 (200167) EN A61L027-38
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI
IT 1302534 B 20000905 (200215) A61K045-00
US 2002076810 A1 20020620 (200244) A61K045-00
JP 2002532568 W 20021002 (200279) 49 A61K035-32
US 6699471 B2 20040302 (200417) C12N005-00 <--
US 2004142465 A1 20040722 (200449) C12N005-08
AU 771409 B2 20040318 (200454) A61L027-38
ADT WO 2000037124 A1 WO 1999-IB2077 19991221; AU 2000017916 A AU 2000-17916 19991221; EP 1140240 A1 EP 1999-961237 19991221, WO 1999-IB2077 19991221; IT 1302534 B IT 1998-PD298 19981221; US 2002076810 A1 Cont of WO 1999-IB2077 19991221, US 2001-887757 20010621; JP 2002532568 W WO 1999-IB2077 19991221, JP 2000-589234 19991221; US 6699471 B2 Cont of WO 1999-IB2077 19991221, US 2001-887757 20010621; US 2004142465 A1 Div ex US 2001-887757 20010621, US 2004-752464 20040106; AU 771409 B2 AU 2000-17916 19991221
FDT AU 2000017916 A Based on WO 2000037124; EP 1140240 A1 Based on WO 2000037124; JP 2002532568 W Based on WO 2000037124; US 2004142465 A1 Div ex US 6699471; AU 771409 B2 Previous Publ. AU 2000017916, Based on WO 2000037124

PRAI IT 1998-PD298 19981221
IC ICM A61K035-32; A61K045-00; A61L027-38; C12N005-00; C12N005-08
ICS A61K031-7088; **A61K031-728**; A61K038-27; **A61K047-36** ; A61P019-04; **C08B037-00**; C12N005-06
AB WO 200037124 A UPAB: 20000811
NOVELTY - Injectable biocompatible compositions comprising at least one hyaluronic acid derivative and at least one biologically or pharmacologically active component and/or mammalian cell.

DETAILED DESCRIPTION - Injectable biocompatible compositions comprise at least one hyaluronic acid derivative and at least one biologically or pharmacologically active component and/or mammalian cell. The hyaluronic acid derivative is a benzyl ester of hyaluronic acid in which 50-75% of the carboxy groups are esterified with a benzyl radical or an auto-**crosslinked** derivative of hyaluronic acid in which 3-15% of the carboxyl groups of hyaluronic acid are **crosslinked** to the hydroxyl group of the same or different hyaluronic acid molecule.

ACTIVITY - Vulnerary; uropathic; immunosuppressive; antidiabetic; antiarthritic; antirheumatic. Assays are described, but no results given.

MECHANISM OF ACTION - None given.

USE - The compositions are used for repair of cartilages (claimed) such as joint cartilages. They can be used to treat both superficial and deep cartilage defects. They may also be used to deliver cells for a variety of purposes e.g. fibroblasts (autologous) for aesthetic surgical purposes and as fillers for tissue defects, adipocytes (autologous, heterologous or homologous) for soft-tissue augmentation for applications such as reconstruction of breasts or other soft body parts, urethral cells (fibroblastoids or cartilage cells) to treat urinary incontinence and to treat autoimmune diseases such as juvenile diabetes or rheumatoid arthritis. They may also be used for gene therapy to treat e.g. cystic fibrosis.

ADVANTAGE - The compositions are injectable, biocompatible and biodegradable. The hyaluronic acid-based material provides both a vehicle for injection and a method of protecting the cells during transport. The cell survival rate is higher than in prior art compositions improving transportability. The compositions can be spread more efficiently over the surface to be treated, allowing the regenerated tissue to integrate perfectly with the cartilage tissue surrounding the defect. The compositions do not need to be used immediately after preparation.

Dwg.0/0
FS CPI GMPI
FA AB; DCN
MC CPI: **B04-C02E**; B04-E01; B04-F02; B04-H01; B04-H06; B14-C09B; B14-G02D; B14-K01; B14-N01; B14-S03; B14-S04; D05-H08; D05-H12; D09-C01D
TECH UPTX: 20000811
TECHNOLOGY FOCUS - PHARMACEUTICALS - Preferred Compositions - The benzyl ester is one in which 50% of the carboxy groups are esterified with a benzyl radical. The mammalian cell is a chondrocyte (preferred), osteocyte, fibroblast, keratinocyte, adipocyte, muscle cell, nerve cell, cell from the peripheral nervous system, endothelial cell, hematopoeitic cell, glandular cell, cell of the urethra or stem cells from adults and embryos. The biologically active component is a pharmacologically active component, preferably an antibiotic, anti-inflammatory agent, antiseptic, active hormone, anti-tumor agent, anti-viral agent, a growth factor or a differentiation/modulation factor (preferably transforming growth factor, insulin-like growth factor, platelet-derived growth factor, epidermal growth factor, acid or basic fibroblast growth factor), hepatocyte growth factor, keratinocyte growth factor, bone morphogenic protein, osteogenic proteins or a nucleic acid such as DNA or RNA. The compositions further comprise fibers, granules, microspheres, nanospheres or sponge fragments of a derivative of hyaluronic acid. The derivative of hyaluronic acid is the total benzyl ester derivative.
ABEX UPTX: 20000811

ADMINISTRATION - Administration is by injection (claimed).

EXAMPLE - A sponge of auto **cross-linked** hyaluronic acid (ACP) (HYAFF-11) was brought to a temperature of less than -150degreesC in liquid nitrogen, pressed and sieved to obtain a granulometry of less than 100 microm. Granules of ACP (100 mg) were mixed with ACP (0.5 ml). Heparin-treated bone marrow (5-10 ml) was transferred into a sterile syringe (22 gauge) from 10-20 ml containing ACP granules and gel. The mixture was extruded slowly into a second syringe to give a homogeneous mixture. The cells could be injected in vivo into the osteochondral defect immediately afterwards or left to adhere to the microparticles for 3-4 hours at 37degreesC before implantation.

L166 ANSWER 2 OF 8 WPIX COPYRIGHT 2004 THE THOMSON CORP on STN
AN 1997-362795 [33] WPIX
DNN N1997-301718 DNC C1997-116142
TI Treating xenograft or heterograft tissue to prevent calcification and degradation - by **cross-linking** with glutaraldehyde, treating with a solution of chitosan, glycine and gentamicin, then treating with partially degraded heparin..
DC B04 D22 P32
IN CHANDA, J; KURIBAYASHI, R
PA (CHAN-I) CHANDA J; (KURI-I) KURIBAYASHI R
CYC 1
PI US 5645587 A 19970708 (199733)* 4 A61F002-10 <--
ADT US 5645587 A US 1996-658694 19960605
PRAI US 1996-658694 19960605
IC ICM A61F002-10
AB US 5645587 A UPAB: 19970813
Treating a xenograft tissue to prevent in vivo calcification and degradation, comprises: (a) **cross-linking** tissue with glutaraldehyde; (b) treating the **cross-linked** tissue with a solution containing chitosan, glycine and gentamicin sulphate in normal saline solution; and (c) binding the treated, **cross-linked** tissue with partially degraded heparin in normal saline.
USE- The treatment processes may be used for preparation of tissues (such as heart valves, blood vessels or pericardial tissues) which do not calcify and are not subject to thrombosis after implantation.
ADVANTAGE- The treatment processes improve the viability of implanted tissues.
Dwg.0/0
FS CPI GMPI
FA AB; DCN
MC CPI: B02-G; **B04-C02E**; B04-C02E3; B10-B02J; B10-F02; B12-M06; D09-C01B

L166 ANSWER 3 OF 8 WPIX COPYRIGHT 2004 THE THOMSON CORP on STN
AN 1997-350664 [32] WPIX
CR 1999-180053 [15]; 2000-374511 [32]; 2001-158209 [16]; 2001-366833 [38]; 2002-424869 [45]; 2003-221339 [21]; 2003-777757 [73]
DNN N1997-290707 DNC C1997-113164
TI Polymers **crosslinked** by multiple electrophilic and nucleophilic groups - used as bio-adhesives, or for e.g. hard and soft tissue augmentation, preventing surgical adhesions, implant coating or drug delivery matrices.
DC A25 A96 B04 B07 D22 P34
IN BERG, R A; DELUSTRO, F A; RHEE, W M
PA (CLGE) COLLAGEN CORP
CYC 21
PI WO 9722371 A1 19970626 (199732)* EN 75 A61L027-00 <--
RW: AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE
W: AU CA JP
AU 9713344 A 19970714 (199744)

EP 876165 A1 19981111 (199849) EN
R: AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
JP 2000502380 W 20000229 (200022) 70 C08L101-00
AU 717660 B 20000330 (200026)
JP 2004244639 A 20040902 (200457) 38 C08G081-00
ADT WO 9722371 A1 WO 1996-US19975 19961218; AU 9713344 A AU 1997-13344 19961218; EP 876165 A1 EP 1996-944824 19961218, WO 1996-US19975 19961218; JP 2000502380 W WO 1996-US19975 19961218, JP 1997-522938 19961218; AU 717660 B AU 1997-13344 19961218; JP 2004244639 A Div ex JP 1997-522938 19961218, JP 2004-93835 20040326
FDT AU 9713344 A Based on WO 9722371; EP 876165 A1 Based on WO 9722371; JP 2000502380 W Based on WO 9722371; AU 717660 B Previous Publ. AU 9713344, Based on WO 9722371
PRAI US 1995-573799 19951218
REP EP 640647; EP 656214; EP 656215; EP 680990; EP 732109; US 5162430; US 5428022; WO 9005755; WO 9401483
IC ICM A61L027-00; C08G081-00; C08L101-00
ICS A61K047-34; A61L024-00; A61L025-00; A61L031-00; A61L033-00; C08L071-02; C08L077-04
AB WO 9722371 A UPAB: 20040907
Composition comprising (a) a first synthetic polymer (SP1) having nucleophilic groups; and (b) a second synthetic polymer (SP2) having electrophilic groups; and in which the nucleophilic and electrophilic groups can react to form covalent bonds between SP1 and SP2, resulting in formation of a 3-dimensional matrix; and optionally further comprising a polysaccharide or a protein; is new.

USE - The SP1/SP2 composition can be used as a delivery vehicle: excess SP1 provides a matrix with a net positive charge, to bind and deliver negatively charged compounds; while excess SP2 gives a negatively charged matrix, to bind and deliver positively charged compounds. Examples of charged compounds are drugs, proteins, polysaccharides, and cells, especially various growth factors, to facilitate tissue healing and regeneration; which would diffuse rapidly out of a neutral carrier. The composition can be made to have high tackiness, for use as a bioadhesive, e.g., to adhere skin grafts, e.g., for burn victims, or to adhere native tissue surfaces to non-native tissue, e.g., a synthetic implant, such as artificial blood vessels or organs, bone prostheses, implants, artificial blood vessels or heart valves, implantable lenticules, vascular grafts, and/or stents, tissue and organ transplants, or to seal fissures or crevices to prevent leakages. The composition is optically clear, and also has ophthalmic applications, e.g., for a donor cornea, a synthetic lenticule for correction of vision, or vitreous replacement. The composition can also be used to coat synthetic implants, to reduce thrombogenicity for surgical membranes or meshes, as in hernia repair, or for breast implants; for these, a net SP1/SP2 neutral charge is preferred. Further uses are in tissue augmentation, either soft, e.g., of sphincters, or treatment of and scars; or hard, as bone or cartilaginous tissue, or to replace the synovial fluid in osteoarthritic joints. The composition is also of use to prevent tissue adhesions after surgery or injury, e.g., restenosis after balloon catheterisation, removal of arterial plaque, or removal of scar or endometrial tissue. The composition can also be used to fill spaces and limit radiation damage in radiotherapy.
Dwg.0/18
FS CPI GMPI
FA AB; DCN
MC CPI: A10-E01; A11-C02C; A12-V01; A12-V02; B04-C03; B11-C02; B11-C04; D09-C01; D09-C01B; D09-C01C; D09-C01D

L166 ANSWER 4 OF 8 WPIX COPYRIGHT 2004 THE THOMSON CORP on STN
AN 1997-065419 [06] WPIX
DNC C1997-021547
TI Functionalised polymers covalently attached to **oxime**-forming gp.

- useful in systematic modification of target macromolecule, to create family of biologically important proteins.

DC A11 A14 A25 A96 B04
IN GAERTNER, H F; OFFORD, R E
PA (GAER-I) GAERTNER H F; (OFFO-I) OFFORD R E
CYC 20
PI WO 9641813 A2 19961227 (199706)* EN 76 C07K000-00 <--
RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE
W: AU CA JP
AU 9673272 A 19970109 (199717) C07K001-00
EP 788375 A1 19970813 (199737) EN A61K047-48
R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE
WO 9641813 A3 19970522 (199737) C07K000-00 <--
JP 10509208 W 19980908 (199846) 82 C08G065-32
ADT WO 9641813 A2 WO 1995-IB1175 19951109; AU 9673272 A AU 1996-73272 19961109; EP 788375 A1 EP 1995-944855 19951109, WO 1995-IB1175 19951109; WO 9641813 A3 WO 1995-IB1175 19951109; JP 10509208 W WO 1995-IB1175 19951109, JP 1996-535165 19951109
FDT AU 9673272 A Based on WO 9641813; EP 788375 A1 Based on WO 9641813; JP 10509208 W Based on WO 9641813
PRAI US 1995-394690 19950223; US 1994-336850 19941109
REP 1.Jnl.Ref; EP 539167; EP 605963; WO 9425071; WO 9611953
IC ICM A61K047-48; C07K000-00; C07K001-00; C08G065-32
ICS G01N033-566
AB WO 9641813 A UPAB: 19970205
A new functionalised polymer comprises an organic polymer covalently attached to an amino-oxy **oxime**-forming gp.

Also claimed is a method of systematically modifying the Stokes radius of an organic target macromolecule, comprising: (a) obtaining a site-specifically-functionalised target macromolecule, comprising a first **oxime**-forming gp.; (b) obtaining a series of functionalised organic polymers differing from each other in the series in topology but not in molecular weight (average) comprising a second **oxime**-forming gp. complementary reactive to the first **oxime**-forming gp.; and (c) conjugating the functionalised target macromolecule, separately with each functionalised polymer via oximation to obtain a series of conjugated polymers. Steps (a) and (b) are performed in either order.

The polymer is covalently attached to a first amino-oxy gp. at its first polymer terminus and to a second amino-oxy gp. at its second polymer terminus. The polymer is water soluble and is e.g. dextran, dextran sulphate, P-amino **cross-linked** dextrin, carboxymethyl dextrin, cellulose, methylcellulose, carboxymethyl, cellulose, starch, dextrins, hydrolactates of starch, polyalkylene glycol, heparin, fragments of heparin, polyvinyl alcohol, polyvinyl ethyl ethers, polyvinylpyrrolidone, alpha,beta-poly(2-hydroxyethyl) -DL-aspartamide, polyoxyethylated polyols and polynucleotides.

USE - The method is useful for systematic modification of target macromolecules to rapidly create a families of target molecule, pref. biologically important proteins, differing in topology but not molecular weight, from which families can be identified macromolecules having desired biological or physical properties such as enhanced pharmacokinetic behaviour.

Dwg.0/7
FS CPI
FA AB; DCN
MC CPI: A10-E01; A12-W11L; B04-C02A; B04-C02B; B04-C02C; **B04-C02E1**; B04-C03; B04-E01; B04-N04

L166 ANSWER 5 OF 8 WPIX COPYRIGHT 2004 THE THOMSON CORP on STN
AN 1996-321641 [32] WPIX
DNC C1996-102378
TI **Crosslinked** hyaluronate-RGD peptide conjugates - prepared by epoxide, sodium periodate or tresyl chloride methods, provide temporary

matrix for wound healing and tissue regeneration.
DC A96 B04
IN CHENG, S; CRAIG, W S; DICKERSON, K T; GLASS, J R; **LIU, L**; MULLEN, D G; POLAREK, J W
PA (LJOL-N) LA JOLLA CANCER RES FOUND
CYC 19
PI WO 9620002 A1 19960704 (199632)* EN 48 A61K038-03
RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE
W: CA JP
US 5677276 A 19971014 (199747) 25 A61K038-08 <--
ADT WO 9620002 A1 WO 1995-US16959 19951221; US 5677276 A Cont of US 1994-363213 19941223, US 1995-469582 19950605
PRAI US 1994-363213 19941223; US 1995-469582 19950605
REP JP 680694; US 4963666; US 5100875; US 5310881; US 5330911; WO 9006767
IC ICM A61K038-03; A61K038-08
ICS A61K038-10; A61K038-14; C07K001-113; C07K004-00; C07K007-06; C07K007-08; C07K009-00
AB WO 9620002 A UPAB: 19960819
A novel compsn. comprises **cross-linked** hyaluronate (HA) polymer and a peptide having cell attachment promoting activity containing the amino acid sequence Y-Gly-Asp (Y= Arg or D-Arg), the peptide further containing at least 2 additional amino acids selected from (D-)Arg, (D-)Lys, (D-)Orn, and (D-)HomoArg, where: (i) the HA and the peptide are coupled with a multifunctional epoxide linked to the sugar backbone of HA; (ii) the HA and the peptide are coupled with tresyl chloride and the peptide is linked to HA via at least one methylene bridge; or (iii) the HA and the peptide are coupled with sodium periodate and the peptide is linked directly to the sugar backbone of HA.

USE - The compsns. can be used for treating wounds such as severe burns, skin graft donor sites, decubitus ulcers, diabetic ulcers, surgical incisions and keloid-forming wounds (claimed). They can also be used for inducing tissue regeneration (claimed). The compsns. are also useful as matrices to support cell growth and tissue regeneration in vitro. The novel peptides can be used to inhibit the binding of cells to RGD-containing adhesive proteins such as fibronectin for the treatment of eg. cancer, osteoporosis or thrombosis. They can also be used to detach cells from in vitro culture vessels or to promote cell attachment to a substrate.

ADVANTAGE - The conjugate acts as a temporary replacement matrix that encourages cell migration into the wound and speeds healing. As the wound heals, the conjugate is slowly broken down by the migrating cells and is replaced by a natural matrix. The conjugation methods increase the coupling efficiency and the strength of the HA-peptide bonds.
Dwg.0/6
FS CPI
FA AB; GI; DCN
MC CPI: A10-E01; A12-V01; B04-C01; **B04-C02E**; B14-F04; B14-H01B; B14-N01; B14-N17A; B14-N17B
ABEQ US 5677276 A UPAB: 19971125
A composition comprising **cross-linked** hyaluronate (HA) polymer and a peptide having cell attachment promoting activity containing the amino acid sequence Y-Gly-Asp, wherein Y is Arg or D-Arg, said peptide further containing at least two additional amino acids independently selected from the group consisting of Arg, D-Arg, Lys, D-Lys, Orn, D-Orn, L-HomoArg, and D-HomoArg, wherein said HA and said peptide are coupled with a multifunctional epoxide linked to the sugar backbone of HA.
Dwg.0/6

L166 ANSWER 6 OF 8 WPIX COPYRIGHT 2004 THE THOMSON CORP on STN
AN 1994-167051 [20] WPIX
CR 1989-272665 [38]; 1992-276455 [33]; 1995-005685 [01]; 1997-548860 [50]; 1998-321363 [28]
DNN N1994-131563 DNC C1994-076496
TI Promoting repair of lesion extending through cartilage into bond - using

biodegradable implant containing attached precursor cells, which is porous, encouraging regeneration, opt. with addition of growth factors.

DC A96 B04 D22 P32
IN BREKKE, J H; COUTTS, R D
PA (THMB-N) THM BIOMEDICAL INC
CYC 46
PI WO 9409722 A1 19940511 (199420)* EN 37 A61F002-28
RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL OA PT SE
W: AU BB BG BR BY CA CZ FI HU JP KP KR KZ LK LV MG MN MW NO NZ PL RO RU SD SK UA US UZ VN
AU 9454457 A 19940524 (199434) A61F002-28
BR 9307280 A 19990601 (199927) A61F002-28
US 5904717 A 19990518 (199927) A61F002-28 <--
US 6005161 A 19991221 (200006) A61F002-28
ADT WO 9409722 A1 WO 1993-US10050 19931020; AU 9454457 A WO 1993-US10050 19931020, AU 1994-54457 19931020; BR 9307280 A BR 1993-7280 19931020, WO 1993-US10050 19931020; US 5904717 A Cont of US 1986-823445 19860128, Cont of US 1988-167370 19880314, Div ex US 1990-541627 19900621, CIP of US 1992-909605 19920707, Cont of US 1992-963809 19921020, US 1995-370161 19950109; US 6005161 A Cont of US 1986-823445 19860128, Cont of US 1988-167370 19880314, Div ex US 1990-541627 19900621, CIP of US 1992-909605 19920707, Cont of US 1992-963809 19921020, Div ex US 1995-370161 19950109, US 1995-481821 19950607
FDT AU 9454457 A Based on WO 9409722; BR 9307280 A Based on WO 9409722; US 5904717 A Div ex US 133755, CIP of US 366508; US 6005161 A Div ex US 133755, CIP of US 366508
PRAI US 1992-963809 19921020; US 1986-823445 19860128;
US 1988-167370 19880314; US 1990-541627 19900621;
US 1992-909605 19920707; US 1995-370161 19950109;
US 1995-481821 19950607
REP 1.Jnl.Ref; US 5041138; US 5133755
IC ICM A61F002-28
AB WO 9409722 A UPAB: 20000203
Method comprises (a) providing a biodegradable carrier (BC), carrying a chemotactic ground substance (CGS); (b) harvesting precursor cells (PC), for production of connective tissue; (c) securing the PC to the BC; (d) shaping the BC with PC to the shape of the lesion, with the BC having a peripheral surface; and (e) press filtering into the lesion with the peripheral surface abutting with the lesion.

USE/ADVANTAGE - The above device is used as a bioacceptable, bio-inductive surgical implant in bone, cartilage, and soft tissue, for repair of deficiencies, defects, voids, and conformational discontinuities caused congenitally, pathologically, accidental or surgical injury, or atrophy, to restore the tissue to normal gross morphology, structural architecture and competence, biological and physiological activities, cell populations, and biochemical functions. Both macrostructure and microstructure are porous, encouraging regeneration. The device eliminates the need for removal of bone from elsewhere, and affixes to the site securely. The matrix can contain bioactive substances, including osteo-inductive/osteogenic and chondro-inductive/chondrogenic agents, growth factors, and antibiotics. The CGS is chosen to provide an electro-negative environment, conducive to osteogenesis, in bone treatments. The PC stimulate repair; and the structure is biodegradable, eliminating need for surgical removal.

Dwg.5/7
FS CPI GMPI
FA AB; GI; DCN
MC CPI: A05-E02; A09-A07; A12-V02; D09-C01

L166 ANSWER 7 OF 8 WPIX COPYRIGHT 2004 THE THOMSON CORP on STN
AN 1988-016037 [03] WPIX
DNN N1988-011973 DNC C1988-006993
TI Controlled oxidation of collagen with periodate - gives **crosslinked**

prod. useful in bio-medical applications e.g. lens implants.
DC A11 A96 B04 B07 D16 D22 P34
IN TARDY, M; TAYOT, J; TAYOT, J L
PA (IMED-N) IMEDEX SA; (INMR) PASTEUR MERIEUX SERUMS & VACCINS; (INMR) INST MERIEUX
CYC 14
PI EP 253715 A 19880120 (198803)* FR 7
R: AT BE CH DE ES GB GR IT LI NL SE
FR 2601371 A 19880115 (198810)
JP 63033400 A 19880213 (198812)
US 4931546 A 19900605 (199026) <--
EP 253715 B1 19941130 (199501) FR 11 C08H001-06
R: AT BE CH DE ES GB GR IT LI NL SE
DE 3750793 G 19950112 (199507) C08H001-06
ES 2065323 T3 19950216 (199513) C08H001-06
JP 2520858 B2 19960731 (199635) 7 C07K014-78
ADT EP 253715 A EP 1987-401573 19870706; FR 2601371 A FR 1986-10160 19860711; JP 63033400 A JP 1987-172729 19870810; US 4931546 A US 1987-72368 19870713; EP 253715 B1 EP 1987-401573 19870706; DE 3750793 G DE 1987-3750793 19870706, EP 1987-401573 19870706; ES 2065323 T3 EP 1987-401573 19870706; JP 2520858 B2 JP 1987-172729 19870710
FDT DE 3750793 G Based on EP 253715; ES 2065323 T3 Based on EP 253715; JP 2520858 B2 Previous Publ. JP 63033400
PRAI FR 1986-10160 19860711
REP 4.Jnl.Ref; A3...8841; GB 915441; No-SR.Pub; US 4223984; 2.Jnl.Ref; US 4164559
IC A61K009-14; A61K037-12; A61L027-00; B29D011-00; C07K003-00; C07K015-20; C08H001-06
ICM C07K014-78; C08H001-06
ICS A61K009-14; A61K037-12; A61L027-00; B29D011-00; C07K001-14; C07K003-00; C07K015-20
AB EP 253715 A UPAB: 19970502
A process for treating collagen to facilitate **cross linking** and to allow the production of **cross linked** collagen with improved stability and mechanical properties, comprises subjecting the collagen to careful oxidation by means of a solution of periodic acid or a periodate, especially Na periodate. The treatment is pref. carried out
on a solution of the collagen or on ready-processed collagen e.g. in the form of a gel, powder or film.
USE/ADVANTAGE - The periodate treatment allows controlled oxidation o the collagen and allows homogeneous bulk **crosslinking** with the necessity of using chemical reagents such as glutaraldehyde or formaldehyde. Excess aldehyde gps. formed on the collagen mol can be neutralised e.g. with a solution of glycocol, ethanolamine and/or Na hydroboride, or used for, coupling with proteins, fibronectine, growth factors, glycosaminoglycans, enzymes, bactericidal or bacteriostatic agents, antibiotics, etc., or other prod. imparting improved biocompatibility and resistance to biodegradation. The prods. are useful for medical and biomedical applications such as lenses and implants.
Dwg.0/0
FS CPI GMPI
FA AB
MC CPI: A03-C01; A10-E11; **A11-C02**; A12-V02; A12-V02A; B02-Z; B04-B02C; B04-B04A; B04-B04A6; B04-B04J; **B04-C02**; B11-C04A; D09-C01; D09-C01A
ABEQ US 4931546 A UPAB: 19930923
Reticulating collagen giving improved stability and mechanical properties comprises controlled oxidn. with HIO4 or NaIO4 of non-reticulated collagen. Used for collagen soln. powder, gel or film using 0.1-0.0004 IO4 at pH 2-8. Prod. may be washed with glycine or ethanolamine soln. or NaHBO5. Surface may be cured with NaIO4 in di- or poly-aldehyde (0.1-0.001 M).

Pref. reticulated collagen as powders, gel, films, spheres, with reactive gps. for subsequent bonding may be prepd. with NIO4 treatment, the gps. being linked to biologically active molecules for better biocompatibility and resistance to biodegradation. Gps.. are e.g. proteins, fibronectin, growth factors, glycosamineglycans, enzyme, antibiotics, etc..

ADVANTAGE - Stability is increased to several months.

ABEQ EP 253715 B UPAB: 19950110

A process for **cross-linking** collagen in aqueous solution, characterised in that it consists in subjecting the collagen to a controlled oxidation with a solution of periodic acid or of sodium periodate, at a concentration ranging between 10-1 and 10-4 M at ambiant temperature at acidic pH, and then in carrying out a solidification of the collagen.

Dwg.0/0

L166 ANSWER 8 OF 8 WPIX COPYRIGHT 2004 THE THOMSON CORP on STN

AN 1987-158688 [23] WPIX

CR 1986-118887 [18]; 1986-232217 [35]; 1987-036907 [05]; 1987-199004 [29]

DNN N1987-119110 DNC C1987-066228

TI Controlled release drug delivery system - containing soluble or **crosslinked** hyaluronan or hylan, opt. together with other hydrophilic polymer.

DC A96 B05 B07 P32 P34

IN BALAZS, E A; LARSEN, N E; LESCHCHINER, A; LESHCHINER, A; BAIAZS, E A

PA (BIOM-N) BIOMATRIX INC

CYC 12

PI	EP 224987	A	19870610 (198723)*	EN	31	
	R: BE CH DE FR GB IT LI NL SE					
	JP 62129226	A	19870611 (198729)			
	EP 224987	B	19920415 (199216)	EN	12	
	R: BE CH DE FR GB IT LI NL SE					
	DE 3684887	G	19920521 (199222)		A61K047-36	<--
	US 5128326	A	19920707 (199230)	10	A61K031-715	<--
	JP 06092320	B2	19941116 (199444)	10	A61K047-36	<--
	CA 1340199	C	19981215 (199909)		A61K047-36	<--

ADT EP 224987 A EP 1986-306046 19860805; JP 62129226 A JP 1986-219096 19860916; EP 224987 B EP 1986-306046 19860805; DE 3684887 G DE 1986-3684887 19860805, EP 1986-306046 19860805; US 5128326 A CIP of US 1984-678895 19841206, Div ex US 1984-678895 19841206, CIP of US 1985-709977 19850308, CIP of US 1985-755976 19850718, Cont of US 1985-804178 19851129, Cont of US 1988-140877 19880106, Cont of US 1989-320822 19890309, US 1990-559413 19900723; JP 06092320 B2 JP 1986-219096 19860916; CA 1340199 C CA 1986-516770 19860825

FDT DE 3684887 G Based on EP 224987; US 5128326 A CIP of US 4582865, CIP of US 4605691, CIP of US 4636524; JP 06092320 B2 Based on JP 62129226

PRAI US 1985-804178 19851129

REP A3...8746; EP 161887; GB 2172295; No-SR.Pub; US 4582865; WO 8300150

IC ICM **A61K031-715; A61K047-36**

ICS A61F013-00; A61K009-70; A61L015-03

AB EP 224987 A UPAB: 19940627

Drug delivery system comprises (1) as polymeric component, a soluble or insoluble hyaluronan or hylan and (2) a predetermined amount of at least one biologically or pharmaceutically active ingredient (I), which is controllably released at a therapeutically effective rate to a particular site.

Soluble (1) is pref. used as a 0.05-4 (especially 0.05-2) weight% aqueous solution containing (2) in dissolved or dispersed form partic. in the form of a viscoelastic putty. Insol. (1) is pref. in the form of a **crosslinked** gel, opt. containing at least one other hydrophilic polymer (II).

USE/ADVANTAGE - Compsns. containing soluble (1) are useful for injection

of topical application as eye drops, where they remain in contact with the eye for longer, providing longer-lasting and more uniform activity. Compsns. containing insol. (1) are useful, e.g. as contraceptive devices, wound dressings, drug delivery patches, etc. Component (1) has extremely high compatibility and can be used in humans without any complications. Dwg.0/0

FS CPI GMPI

FA AB; DCN

MC CPI: A12-V01; B02-G; **B04-C02**; B06-A03; B06-D01; B07-D04; B10-C04B; B12-A07; B12-K03; B12-L04; B12-M02D; B12-M10A

ABEQ DE 3684887 G UPAB: 19930922

Drug delivery system comprises (1) as polymeric component, a soluble or insoluble hyaluronan or hylan and (2) a predetermined amt. of at least one biologically or pharmaceutically active ingredient (I), which is controllably released at a therapeutically effective rate to a particular site.

Soluble (1) is pref. used as a 0.05-4 (esp. 0.05-2) wt.% aq. soln. containing (2) in dissolved or dispersed form partic. in the form of a viscoelastic putty. Insol. (1) is pref. in the form of a **crosslinked** gel, opt. contg. at least one other hydrophilic polymer (II).

USE/ADVANTAGE - Compsns. contg. soluble (1) are useful for injection of topical application as eye drops, where they remain in contact with the eye for longer, providing longer-lasting and more uniform activity. Compsns. contg. insol. (1) are useful, e.g. as contraceptive devices, wound dressings, drug delivery patches, etc. Component (1) has extremely high compatibility and can be used in humans without any complications.

ABEQ EP 224987 B UPAB: 19930922

The use of a polymeric component as an agent for slowing the release of a substance having pharmacological activity in the prepn. of a compsn. for therapeutic treatment said polymeric component being a water-soluble or water-insoluble hyaluronan or hylan other than a water-insoluble **cross-linked** hyaluronan gel formed using divinyl sulfone as **cross-linking** agent. ()

ABEQ US 5128326 A UPAB: 19930922

New controlled release drug delivery system comprises a polymeric insol. hyaluronan or sol. hylan and active agent(s), which are dissolved or dispersed in aq. soln. or viscoelastic putty hylan of M.W. 1X 10 power 6 or more. Concn. is 0.05-4(0.05-2) % wt.in water or saline at pH 7.

Drugs include serotonin, salicylic acid, and gentamycin. The hyaluran is opt. copolymerised with another hydrophilic polymer opt. with functional gp. able to react with divinyl sulfone e.g. a natural or synthetic polysaccharide (e.g. OHEt cellulose or glycoprotein) to which the drug is covalently bonded or held in a molecular cage. The prod. may be as polymeric porous sponge, guaze or film.

ADVANTAGE - Applicable to most drugs for most modes of admin. including eyedrops.

0/0

=> d his

(FILE 'HOME' ENTERED AT 07:10:31 ON 07 OCT 2004)
SET COST OFF

FILE 'HCAPLUS' ENTERED AT 07:10:41 ON 07 OCT 2004

L1 2 S (US20040077592 OR US6683064 OR US6303585)/PN OR (WO98-US13997
E SPIRO R/AU

L2 45 S E4,E8,E9
E THOMPSON A/AU

L3 302 S E3,E42,E159,E160
E LIN L/AU
E LIU L/AU

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L4          614 S E3,E28
                E LIU LIN/AU
L5          389 S E3,E22,E23
                E LIU LINSHU/AU
L6           14 S E3

     FILE 'REGISTRY' ENTERED AT 07:19:37 ON 07 OCT 2004
L7            8 S (ALGINIC ACID OR HYALURONIC ACID OR DEXTRAN OR DEXTRAN SULFAT
L8            5 S 9005-38-3 OR 9005-35-0 OR 9067-32-7 OR 9011-18-1 OR 9041-08-1
                E ALGINIC ACID, /CN
L9            1 S E274
                E HYALURONIC ACID, /CN
L10           1 S E346
                E HEPARIN, /CN
L11           1 S E47
L12           1 S E311
L13           3 S L7 AND NC>=2
L14          49 S 7664-93-9/CRN AND 75634-40-1/CRN
L15           3 S L14 AND (K OR NA OR LI)/ELS AND 3/NC
L16           8 S L14 AND 2/NC
L17         149 S 7664-93-9/CRN AND 9004-54-0/CRN
L18           2 S L17 AND 2/NC
L19          87 S L17 AND 3/NC
L20          16 S L19 NOT (MXS/CI OR COMPD OR WITH)
L21           4 S L20 AND (NA OR K OR LI)/ELS
L22         149 S 7664-93-9/CRN AND 9007-27-6/CRN
L23          11 S L22 AND 2/NC
L24          38 S L22 AND 3/NC NOT (MXS/CI OR COMPD OR WITH)
L25          10 S L24 AND (NA OR K OR LI)/ELS
L26          13 S L14,L17,L22 AND (MG OR MN OR BA OR CA)/ELS AND 3/NC
L27          63 S L7-L12,L15,L16,L21,L23,L25,L26

     FILE 'HCAPLUS' ENTERED AT 07:32:53 ON 07 OCT 2004
L28       72867 S L27
L29        3385 S L28 AND (?CROSSLINK? OR ?CROSS LINK?)
                E CROSSLINK/CT
                E E4+ALL
L30           5 S L28 AND E1
                E E2+ALL
L31         374 S L28 AND E2
L32         364 S L28 AND (E9+OLD OR E10+OLD OR E11+OLD OR E12+OLD)
                E E9+ALL
                E E9+ALL
                E E10+ALL
L33        3385 S L29-L32
L34           5 S L33 AND (IMINE OR OXIME) AND ALDEHYDE
L35           8 S L33 AND (IMINE OR OXIME) AND ?ALDEHYDE?
L36           8 S L34,L35
                E DRUG DELIVERY/CT
L37        6774 S E23
L38        3644 S E52
L39       10820 S E76-E83
                E E3+ALL
                E E6+ALL
L40       54558 S E3-E5
L41         883 S E58
L42        1192 S E86
L43         661 S E97
L44        2730 S E110-E117
L45          73 S E202
L46         282 S E277-E280
L47        8591 S (DRUG DELIVERY SYSTEM? OR PHARMACEUTICAL DOSAGE FORM?)/CT (L)
L48          52 S L33 AND L47
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L49          72 S L33 AND L37-L46 AND CARRIER
L50          82 S L48,L49
L51          17 S L50 AND (GROWTH FACTOR? OR CYTOKINE? OR HORMON? OR DNA?)/CT
L52           8 S L50 AND CELL#/CW
L53          17 S L50 AND (GROWTH(L)FACTOR? OR CYTOKINE? OR HORMON? OR DNA?)/CW
L54          22 S L51-L53
L55        1336 S L2-L6
L56           8 S L55 AND L33
L57           6 S L56 NOT L1
                 SEL DN AN 3
L58           1 S L57 AND E1-E3
L59          28 S L1,L36,L54,L58
L60           5 S L59 AND ?COVALENT?
L61          28 S L59 AND ?LINK?
L62           3 S L59 AND BOND?
L63           8 S L59 AND BIND?
L64          10 S L61 AND L60,L62,L63
L65           8 S L64 NOT L1
                 SEL DN AN 1 3
L66           6 S L65 NOT E4-E9
L67           5 S L66 NOT 15/SC
L68           2 S L64 NOT L65
L69           7 S L67,L68
                 E POLYSACCHARIDE/CW
L70         329 S E3,E4 (L) CARRIER
L71         340 S E3,E4 (L) CROSSLINK?
L72          46 S E3,E4 (L) CROSS LINK?
                 E OLIGOSACCHARIDE/CW
L73          89 S E4 (L) CARRIER
L74          37 S E4 (L) CROSSLINK?
L75           8 S E4 (L) CROSS LINK?
                 E SACCHARIDE/CW
L76           1 S E4 (L) CARRIER
L77           1 S E4 (L) CROSSLINK?
L78           2 S E4 (L) CROSS LINK?
L79         385 S L70,L73,L76
L80         422 S L71,L72,L74,L75,L77,L78
L81           9 S L79 AND L80
L82           7 S L81 NOT L69
L83         789 S L79,L80 NOT L81
L84         443 S L83 AND (?CROSSLINK? OR ?CROSS LINK?)
L85          71 S L84 AND (BOND? OR BIND?)
L86          39 S L84 AND ?COVALENT?
L87          15 S L85 AND L86
                 SEL DN AN 3 4 6 7 8 9 12 13 14 15
L88           5 S L87 NOT E1-E30
L89          12 S L69,L88
L90          12 S L89 AND L1-L6,L28-L89
L91          12 S L90 AND (?LINK? OR ?CROSS LINK? OR ?ALDEHYD? OR IMINE OR OXIM
L92           8 S L91 AND ?POLYM?
L93           9 S L91 AND (?ALGIN? OR ?HYALURON? OR DEXTRAN? OR CHONDROITIN? OR
L94          12 S L90-L93

    FILE 'HCAPLUS' ENTERED AT 08:06:18 ON 07 OCT 2004
               SEL HIT RN

    FILE 'REGISTRY' ENTERED AT 08:06:56 ON 07 OCT 2004
L95           8 S E31-E38 AND L7-L27

    FILE 'REGISTRY' ENTERED AT 08:07:01 ON 07 OCT 2004

    FILE 'WPIX' ENTERED AT 08:07:26 ON 07 OCT 2004
L96           4 S L1
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L97        3840 S (A61K031-715 OR A61K031-721 OR A61K031-727 OR A61K031-728 OR
L98        3135 S A61K047-36/IPC
L99        6452 S (C08B037-00 OR C08B037-02 OR C08B037-04 OR C08B037-08 OR C08B
L100      35854 S (A03-A OR A03-A00A OR B04-C02 OR C04-C02 OR B04-C02E OR C04-C
                E ALGIN/DCN
                E E4+ALL
L101       2572 S E2 OR 1866/DRN
L102        763 S E4
                E HYALURONIC ACID/DCN
                E E3+ALL
L103       1683 S E2
L104       1196 S E4
                E DEXTRAN/DCN
                E E3+ALL
L105       2179 S E2 OR 1857/DRN
L106        993 S E4
L107        323 S E6
L108        176 S E8
L109         17 S E10
                E CHONDROITIN/DCN
                E E4+ALL
L110       1066 S E2 OR 1875/DRN
L111        550 S E4
L112         72 S E6
                E DERMATAN/DCN
                E KERATAN/DCN
                E HEPARIN/DCN
                E E3+AL
                E E3+ALL
L113       2545 S E2 OR 1867/DRN
L114       1133 S E4
L115         86 S E6
L116      17865 S (V721 OR V731 OR V732 OR V733 OR V735)/M0,M1,M2,M3,M4,M5,M6
L117      50698 S L97-L116
L118       2717 S (R01866 OR R11203 OR R06725)/PLE
L119      56765 S G3623/PLE
L120      96430 S L117-L119
L121       7879 S L120 AND (?CROSSLINK? OR ?CROSS LINK?)/BIX
L122       1661 S L120 AND (N153 OR Q132)/M0,M1,M2,M3,M4,M5,M6
L123       8028 S L120 AND M2073/PLE
L124       2804 S L120 AND 2020/KS
L125      13522 S L121-L124
L126        167 S L125 AND (IMINE OR OXIME)/BIX
L127         62 S L126 AND ?ALDEHYDE?/BIX
                E ETHYLENEDIAMINE/DCN
                E E3+ALL
L128      15648 S E2 OR 0819/DRN OR (ETHYLENEDIAMINE OR ETHYLENE()(DIAMINE OR D
L129        181 S L125 AND L128
L130         42 S L129 AND ?ALDEHYDE?/BIX
L131         99 S L127,L130
L132        995 S L120 AND A11-C02/MC
L133      13593 S L132,L125
L134        167 S L133 AND (IMINE OR OXIME)/BIX
L135        182 S L133 AND L128
L136        339 S L134,L135
L137         99 S L136 AND ?ALDEHYDE?/BIX
L138         99 S L131,L137
L139         16 S L138 AND CARRIER/BIX
L140          5 S L138 AND (D05-A01A OR D05-A01A1 OR D05-A03A)/MC
L141         38 S L138 AND A12-V?/MC
L142         29 S L138 AND A61K/IPC
L143         50 S L139-L142
L144         34 S L120 AND (SPIRO R? OR LIU L? OR THOMPSON A?)/AU
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L145          15 S L144 AND L125
L146           6 S L126-L131 AND L145
L147           9 S L145 NOT L146
                 SEL DN AN 4 7 8
L148           3 S L147 AND E1-E6
L149           9 S L96,L146,L148
L150          44 S L143 NOT L149
L151          30 S M782/M0,M1,M2,M3,M4,M5,M6 AND L150
L152          38 S L138 AND (PY<=1998 OR PRY<=1998 OR AY<=1998)
L153          20 S L152 AND L143
L154          16 S L153 NOT L149
                 SEL DN AN 5 7 10
L155           3 S L154 AND E7-E13
L156          18 S L152 NOT L153,L149
L157          12 S L149,L155
L158          12 S L157 AND L96-L157

     FILE 'WPIX' ENTERED AT 09:19:05 ON 07 OCT 2004

     FILE 'DPCI' ENTERED AT 09:19:17 ON 07 OCT 2004
L159           3 S L1

     FILE 'DPCI' ENTERED AT 09:19:59 ON 07 OCT 2004

     FILE 'WPIX' ENTERED AT 09:20:34 ON 07 OCT 2004
L160          11 S (US4931546 OR US5128326 OR US5645587 OR US5677276 OR US590471
L161           9 S L160 NOT L158
L162           8 S L161 NOT CLOCK/TI
L163           7 S L162 AND L96-L158
L164           1 S L162 AND C08B/IPC
L165           7 S L163,L164
L166           8 S L162-L165

     FILE 'WPIX' ENTERED AT 09:24:55 ON 07 OCT 2004

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